PLANMECA

ProMax x-ray

INSTALLATION MANUAL

Publication number 688271 En
V ersion 14
Published 2004-07

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The manufacturer, assembler, and importer are responsible for the safety, reliability and performance of the unit only if:

- installation, calibration, modification and repairs are carried out by qualified authorized personnel
- electrical installations are carried out according to the appropriate requirements such as IEC364
- equipment is used according to the operating instructions

Planmeca pursues a policy of continual product development. Although every effort is made to produce up-to-date product documentation this publication should not be regarded as an infallible guide to current specifications. We reserve the right to make changes without prior notice.

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PUBLICATION PART NUMBER 688271 revision 14

1 INTRODUCTION

This manual contains all the information required to install and calibrate the PLANMECA ProMax film-based x-ray unit and ProMax digital x-ray unit with Dimax3 digital sensor head. Please read this manual carefully before installing the unit. Sections that apply to only film-based or only digital version are marked, and the installation differences between the versions are described where appropriate.

NOTE You will also need the ProMax x-ray unit's technical manual (publication number 688418) during installation. The adjustment instructions are given in technical manual.

NOTE Dimax3 system: This manual also explains the ProMax Ethernet link configuration procedure. The Dimaxis software package has a separate installation manual, publication number 688237. You will also need the Dimaxis software user's manual, publication number 688127.

NOTE The ProMax Ethernet link configuration requires at least the ProMax software version 1.17.0.0.R, the GUI software version 1.08.0.0.R and the PLANMECA Dimaxis Pro/Classic software version 3.2.3.

2 PRE-INSTALLATION INFORMATION

2.1 Radiation protection

Protect yourself from radiation when you are checking the radiation beam alignment.

The room in which the x-ray is to be installed and the position from where the user is to operate the equipment MUST be correctly shielded from radiation. Since radiation safety requirements vary from country to country and state to state it is the responsibility of the installer to ensure that all safety regulations are met.

WARNING

FAILURE TO INSTALL THE X-RAY IN AN APPROVED LOCATION MAY BE DANGEROUS TO BOTH PATIENT AND OPERATOR.

2.2 Environmental requirement

Strength requirement of the wall

The ProMax x-ray unit must be attached to the wall prior use. Make sure that there is enough room to install the x-ray correctly and that the wall will support the x-ray. The bracket installation must be able to resist a pull-out force of 5518 N (551.8 kg, 1216 lbs).

In case the unit is not attached to the wall, a free standing support must be used.

Temperature & Humidity

The operating temperature range is from +5°C to +40°C, non condensing. The acceptable humidity range is from 15% to 85%. The storage temperature range is from -10°C to +50°C.

2.3 Power requirement

Make sure that the power requirements of the x-ray are the same as the power that is to be used. The x-ray is designed to operate using 100 - 120 V~ or 220 - 240 V~ dedicated power supply with a tolerance of ±10%. The x-ray power requirements are printed on a label which is attached to the mains cable and also printed on a label located at the base of the support column. If the voltage is likely to fluctuate by more than ±10% you will need to install a power supply regulator to ensure that the unit operates correctly. The mains frequency can be either 50 or 60 Hz.

Make sure that there is a power outlet within 2.5 meters (8 feet) of where the x-ray is to be installed.

2.4 Other pre-installation checks (film-based x-ray unit)

Make sure that you have access to an x-ray film processor that is in working order and is ready to use.

Make sure that you have the correct chemicals for processing the x-ray film being used. Make sure that the solutions are fresh.

Make sure that the darkroom is fitted with a safe light that is suitable for the x-ray film being used.

Make sure that the x-ray film will fit the cassette and that it can be used with the intensifying screen being used.

2.5 Dimax3 digital system pre-installation information

The Dimax3 digital system consists of Planmeca ProMax x-ray unit with Dimax3 digital sensor head, Ethernet card, one or more PCs and a Dimaxis software package.

NOTE ***The PC and other equipment connected to the system must be:***
- approved by local authorities: e.g. IEC-approved (CE marked), UL / CSA approved
- located outside the patient area and
- protectively grounded.

NOTE ***The connection of additional equipment to a multiple portable socket-outlet must only be possible by using a tool or be supplied via separating transformer.***

NOTE ***The multiple portable socket-outlets shall not be placed on the floor.***

Client PC system requirements

- **Operating system:**

  Windows XP, Windows 2000, Windows NT 4.0, Windows ME or Windows 98

- **RAM**

  Dixi2: 128MB, 256 MB recommended

  Dimax3: 128MB, 256 MB recommended

- **Hard disk**

  50 MB free space required

- **Processor**

  Intel Pentium or compatible, Pentium III recommended

- **Monitor and graphics card**

  SVGA monitor, resolution 1024 x 768 (or higher), 16 bit colors (or more)

- **Bus**

  5 V PCI Slot for Dimax3 (not needed if ProMax Ethernet link is used)

  5 V PCI Slot for Dixi2 (not needed if ProMax Ethernet link is used)

  (Note One Dixi2 system and one Dimax3 system can utilize the same grabber card)

- **Network card**

  Ethernet min. 10 Mbit

PC data cable

Ethernet Crossover Cable, Planmeca part number 10009912

UTP cat5e Cable, Planmeca part number 06320060

NOTE The PC system must be equipped with a CD-ROM station and an empty PCI slot.

Server PC system requirements

- **Operating system**
  Windows XP, Windows 2000 and Windows NT 4.0
- **RAM**
  Dixi2: 256MB
  Dimax3: 256MB
- **Hard disk**
  2x 80GB recommended

NOTE For data security reasons two physically separate harddisks must be installed!

- **Processor**
  Intel Pentium III or compatible
- **Monitor and graphics card**
  SVGA monitor, resolution 1024 x 768 (or higher), 16 bit colors (or more)
- **Bus**
  5 V PCI Slot for Dimax3 (not needed if ProMax Ethernet link is used)
  5 V PCI Slot for Dixi2 (not needed if ProMax Ethernet link is used)
  (Note One Dixi2 system and one Dimax3 system can utilize the same grabber card)
- **Backup devices**
  MO drive, networkdrive or a third harddisk for long term archive
  Tape backup device for backups
- **Network card**
  Ethernet 10/100 Mbit
- **PC data cable**
  Ethernet Crossover Cable, Planmeca part number 10009912
  UTP cat5e Cable, Planmeca part number 06320060

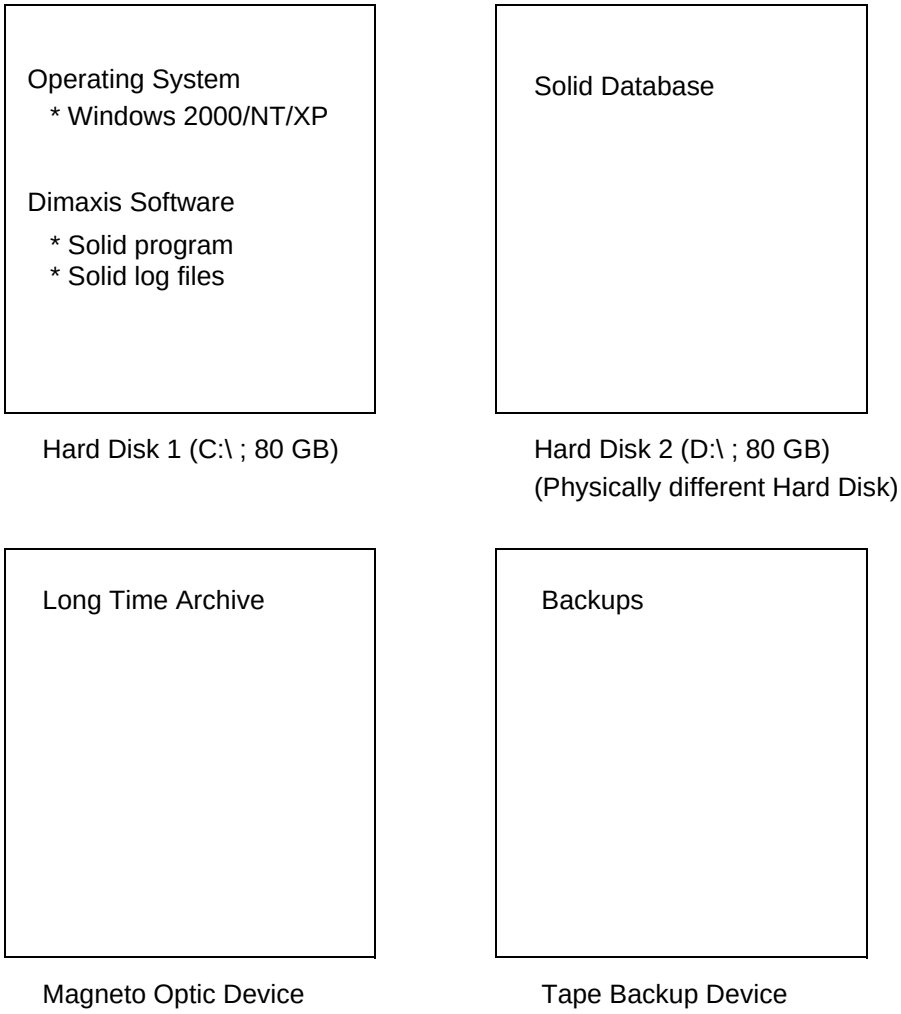
NOTE The Ethernet Crossover Cable can be lengthened with RJ45 Adapter (Planmeca part number 10002209) and a max. 10 m CAT5E UTP Patch Cable (Planmeca part number 06320060). The total length of the Ethernet Crossover cable can be max. 100 m.

NOTE The PC system must be equipped with a CD-ROM station.

NOTE If a Planmeca Dixi 2 system needs to be connected to the same PC together with the ProMax/Ethernet configuration then a Hub/Switch is needed. Refer to the Planmeca Dixi2 user´s and installation manual, publication number 688260.

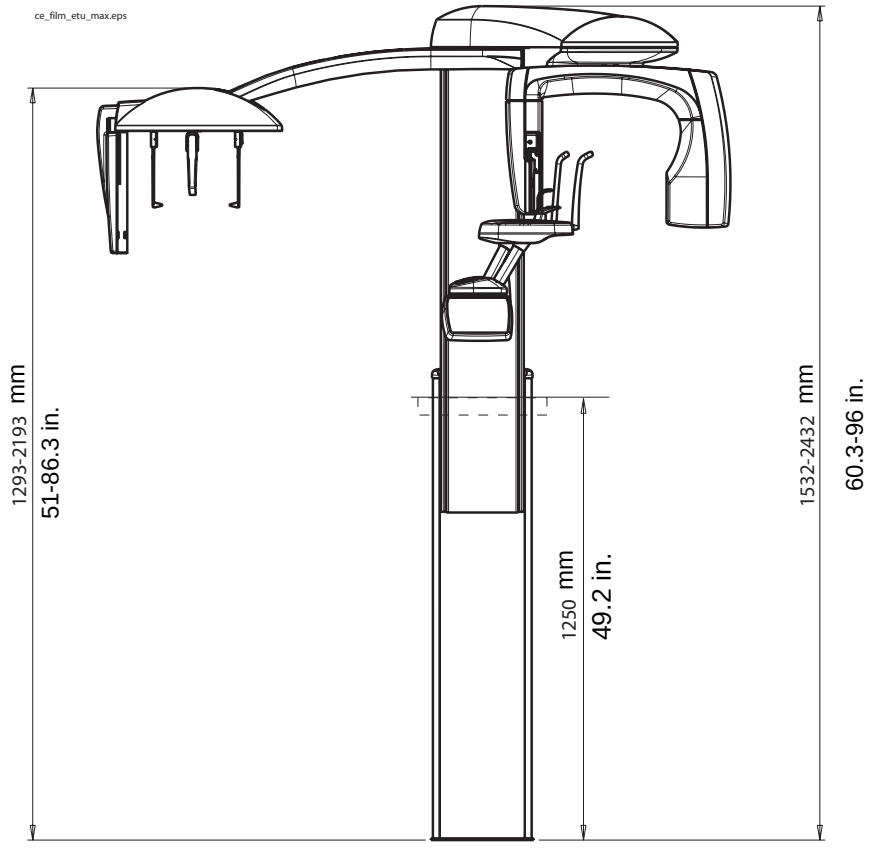
Server PC system setup

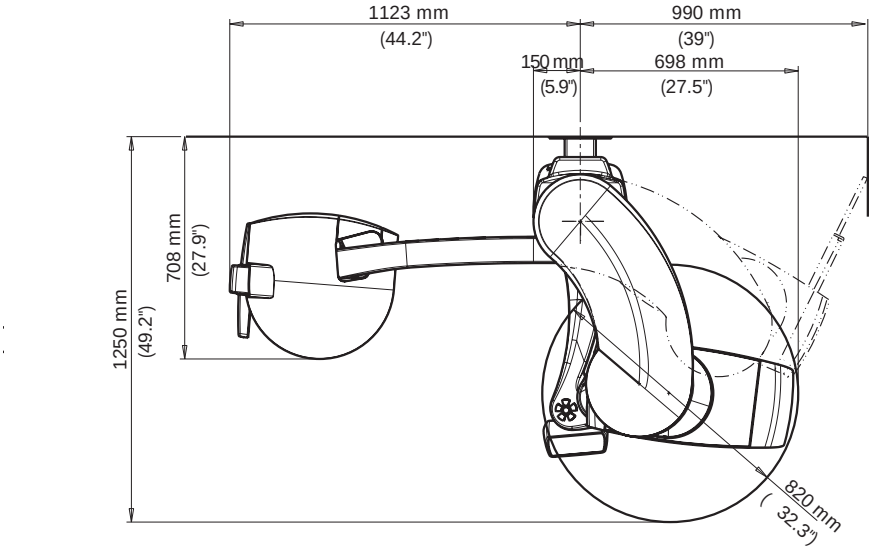
- **This is how we recommend the system to be set up:**



2.6 Dimensions for film-based x-ray unit

The numbers given in the figure below are the nominal, physical measurements of the x-ray unit. The minimum operational space requirements are given in the table below the figure.



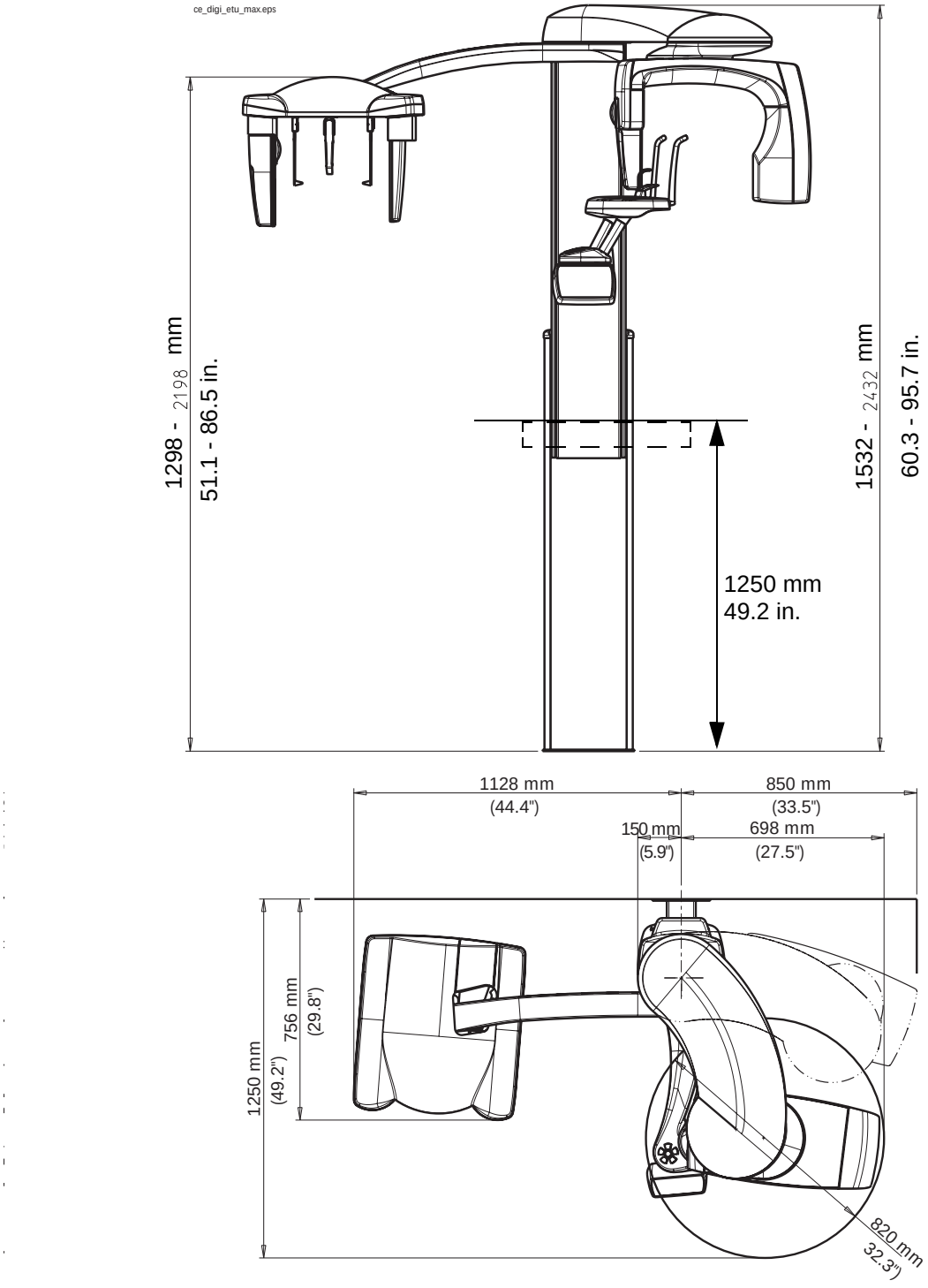


Minimum operational space requirements for the film-based x-ray unit

Equipment	Width	Depth	Height
Planmeca ProMax panoramic x-ray	1500 mm 59 in.	1630 mm 64 in.	2430 mm 96 in.
Planmeca ProMax panoramic x-ray with cephalostat	2150 mm 85 in.	1630 mm 64 in.	2430 mm 96 in.

2.7 Dimensions for digital x-ray unit

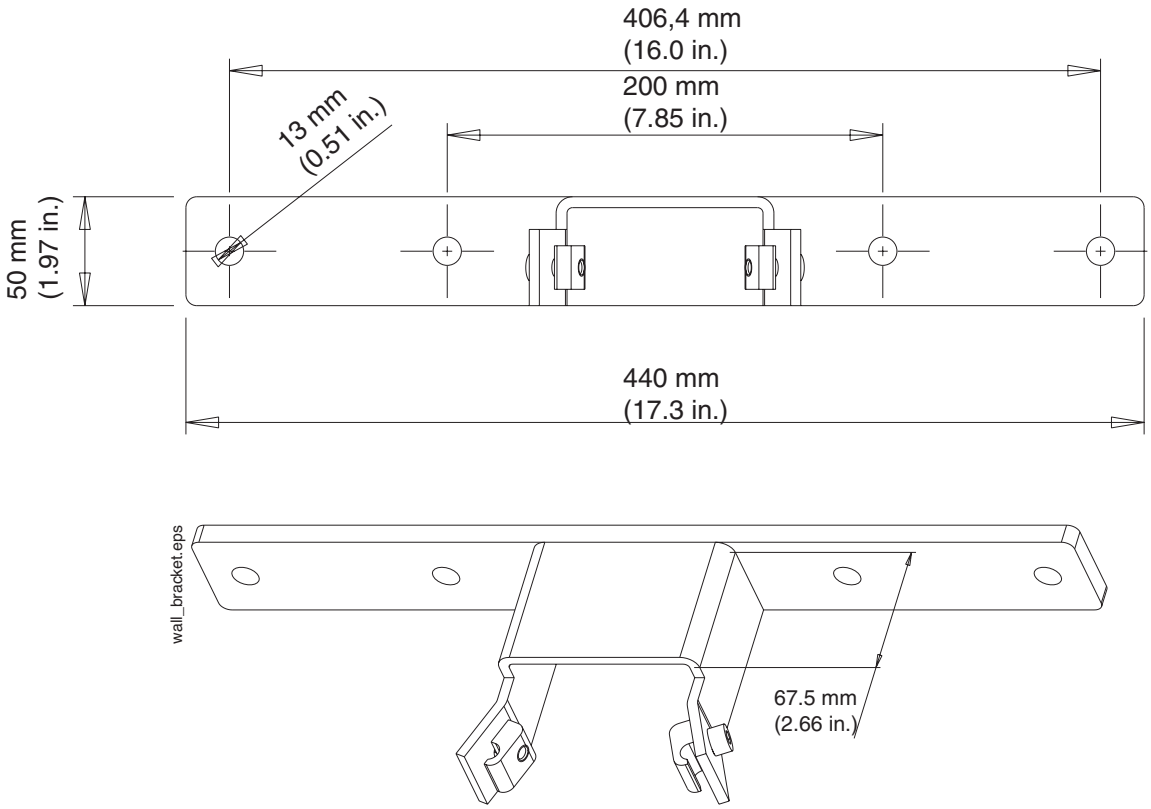
The numbers given in the figure below are the nominal, physical measurements of the x-ray unit. The minimum operational space requirements are given in the table below the figure



Minimum operational space requirements for the digital x-ray unit

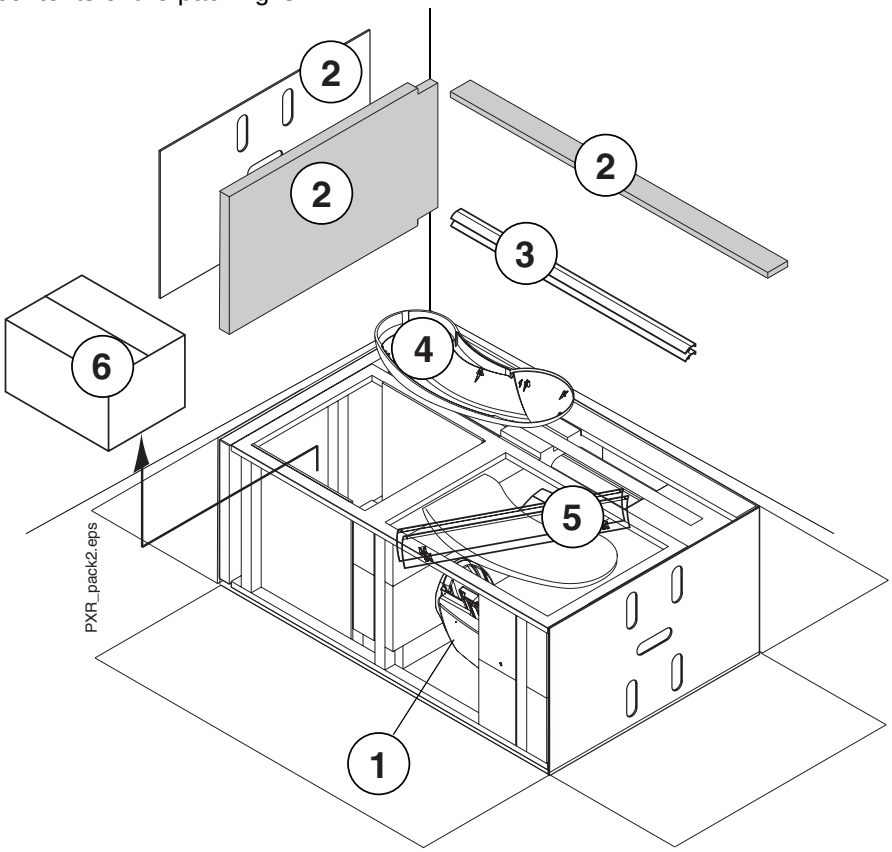
Equipment	Width	Depth	Height
Planmeca ProMax panoramic x-ray	1500 mm 59 in.	1630 mm 64 in.	2430 mm 96 in.
Planmeca ProMax panoramic x-ray with cephalostat	2150 mm 85 in.	1630 mm 64 in.	2430 mm 96 in.

2.8 Wall bracket dimensions



3 CONTENTS OF THE PACKING

The contents of the packing is:



1. ProMax x-ray unit
2. Package protective parts
3. Stationary column side covers
4. Shoulder arm cover
5. Telescopic column rear covers (only units with cephalostat)
6. Accessories carton

3.1 Associated documentation

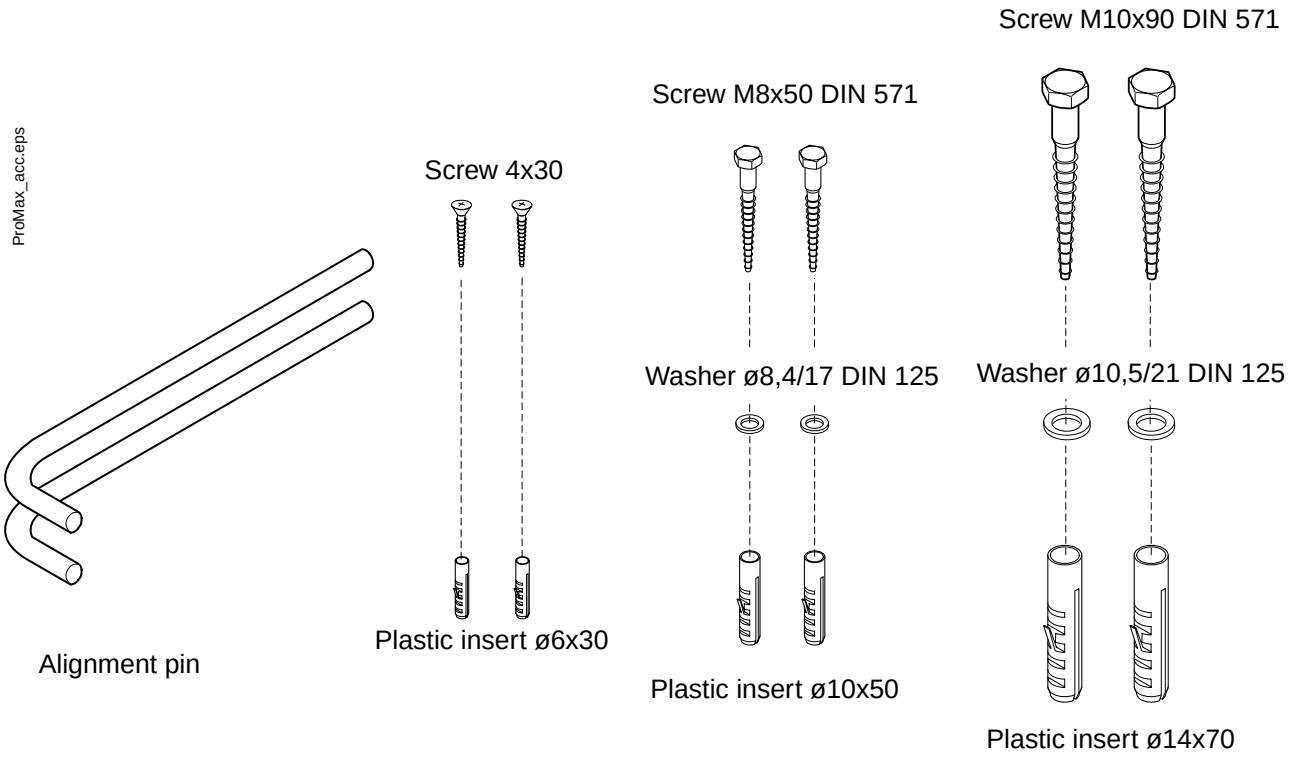
Install the x-ray unit in position according to the instructions given in this manual. Perform the adjustments according to the Technical manual, and verify the operation of the installed x-ray unit according to the User's manual.

All the documentation listed above is supplied with the unit. The cephalostat has its own user's manual.

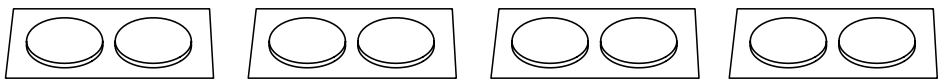
3.2 Mounting accessories

The mounting accessories bag is found inside the accessories carton.

PART	PCS	REFER TO …
Alignment pin	2	ProMax x-ray unit technical manual.
Screw M10x70 DIN 571	2	6 “INSTALLING THE UNIT TO THE WALL” on page 15
Washer ø10.5/21 DIN 125	2	
Plastic insert ø14x70	3	
Screw M8x50 DIN 571	2	6.4 “Adjusting the telescopic column position” on page 21
Washer ø8.4/17 DIN 125	2	
Plastic insert ø10x50	2	
Plastic insert ø6x30	2	8 “INSTALLING THE EXPOSURE SWITCH” on page 25
Screw M4x30	2	
Felt pads	8	5 “UNPACKING THE UNIT” on page 13



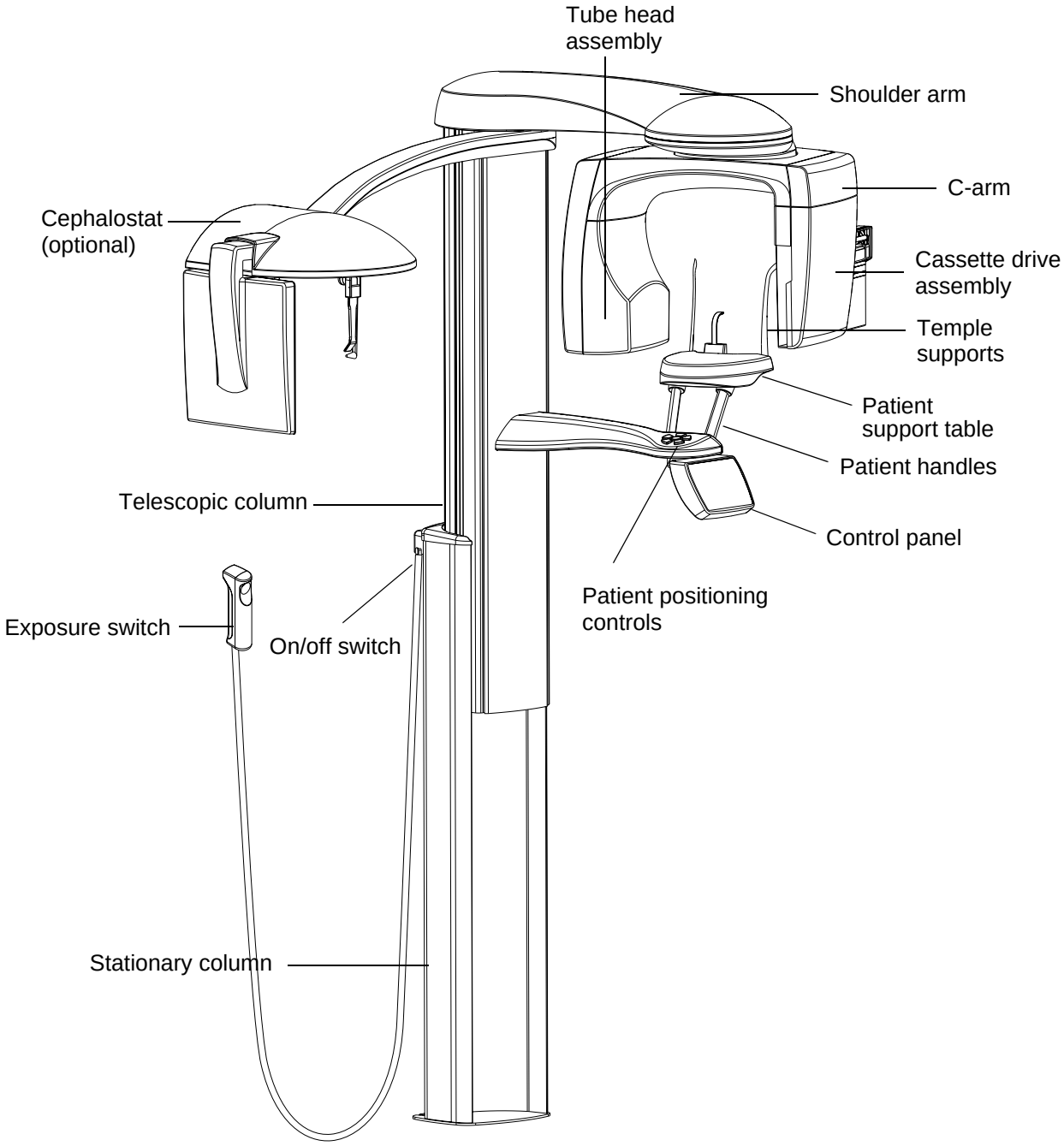
Felt pads ø24



NOTE ***The cephalostat is attached to its packing with attachment plate, washers and nuts that are used to attach the cephalostat arm to the ProMax unit column. Do not throw these parts away when unpacking the cephalostat.***

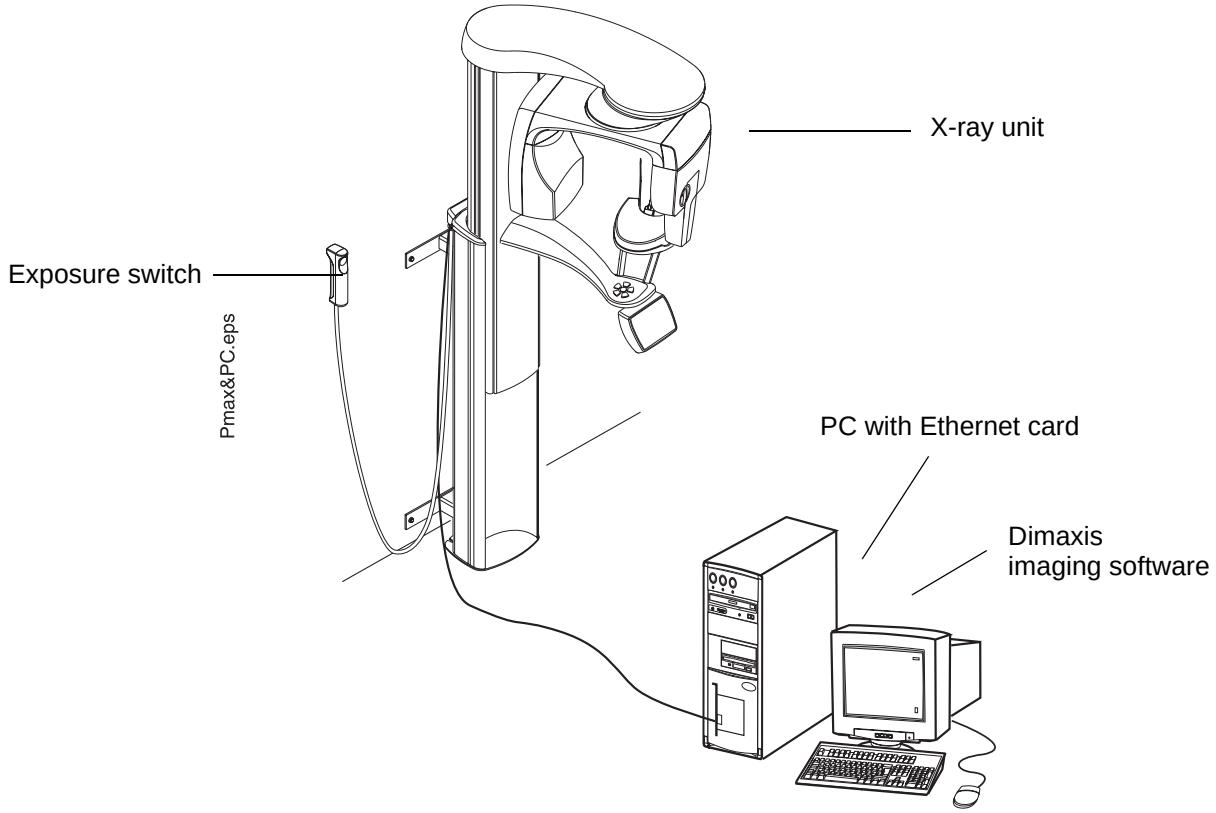
4 MAIN PARTS OF THE PROMAX X-RAY UNIT

4.1 General view of the film-based x-ray

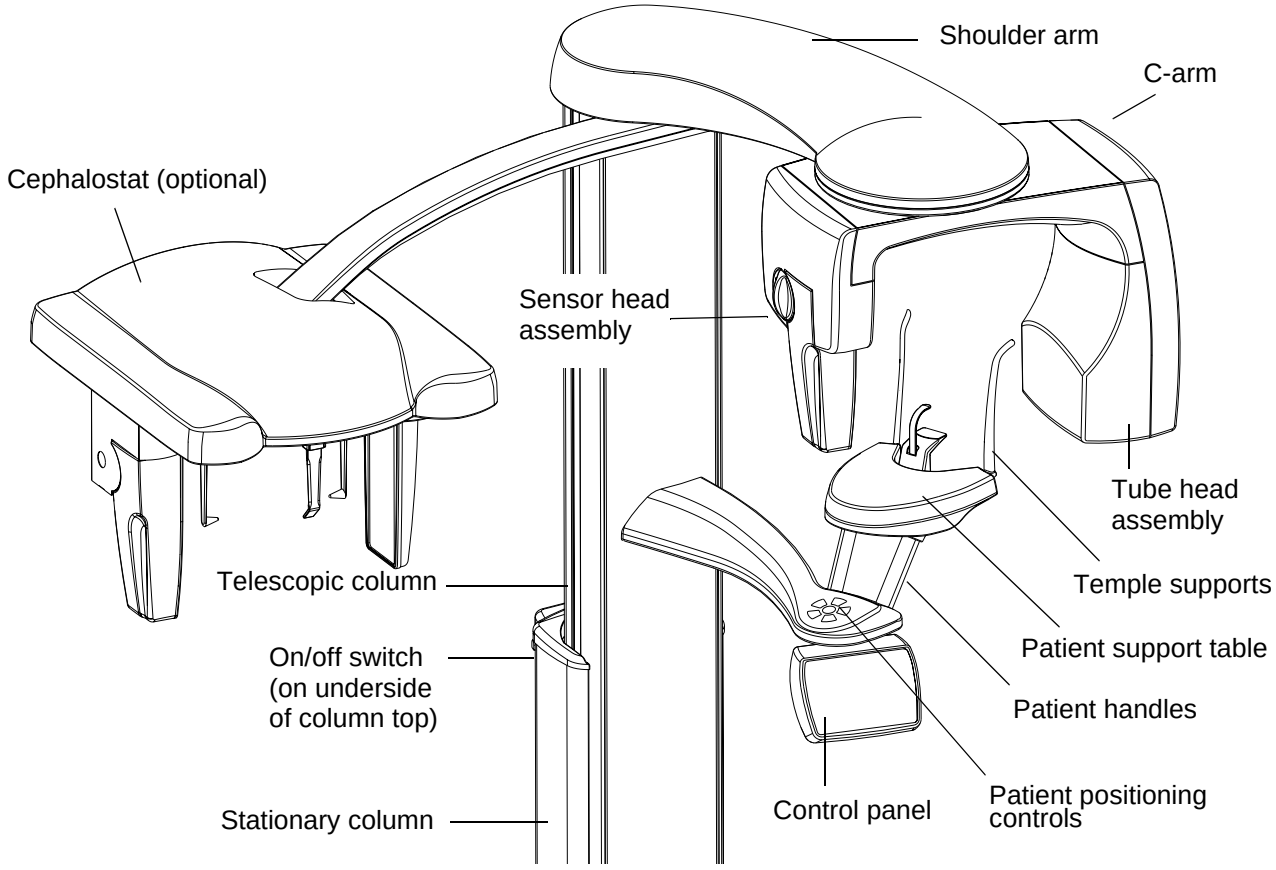


4.2 General view of the digital x-ray unit

General view of the system

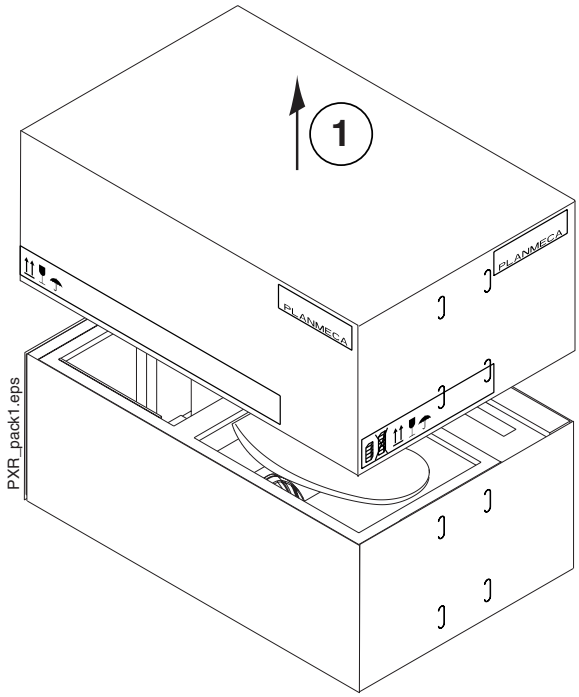


General view of the x-ray

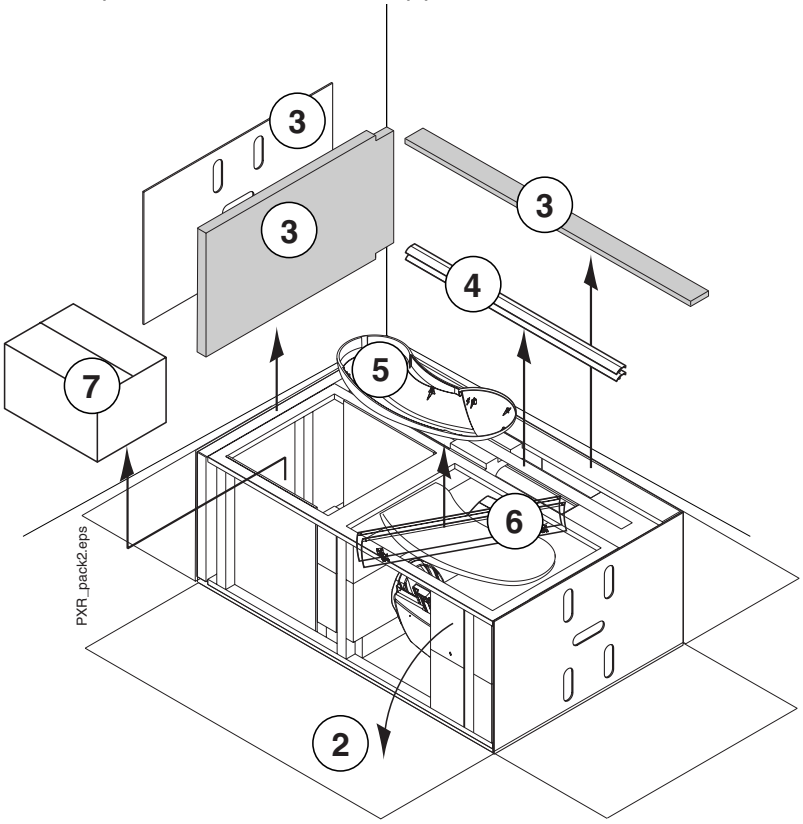


5 UNPACKING THE UNIT

Lift up the upper part of the package (1).



Open the lower part of the package (2) and remove the protective parts (3), column side covers (4), the shoulder arm cover (5), telescopic column rear covers (6, only units with cephalostat) and accessories carton (7).

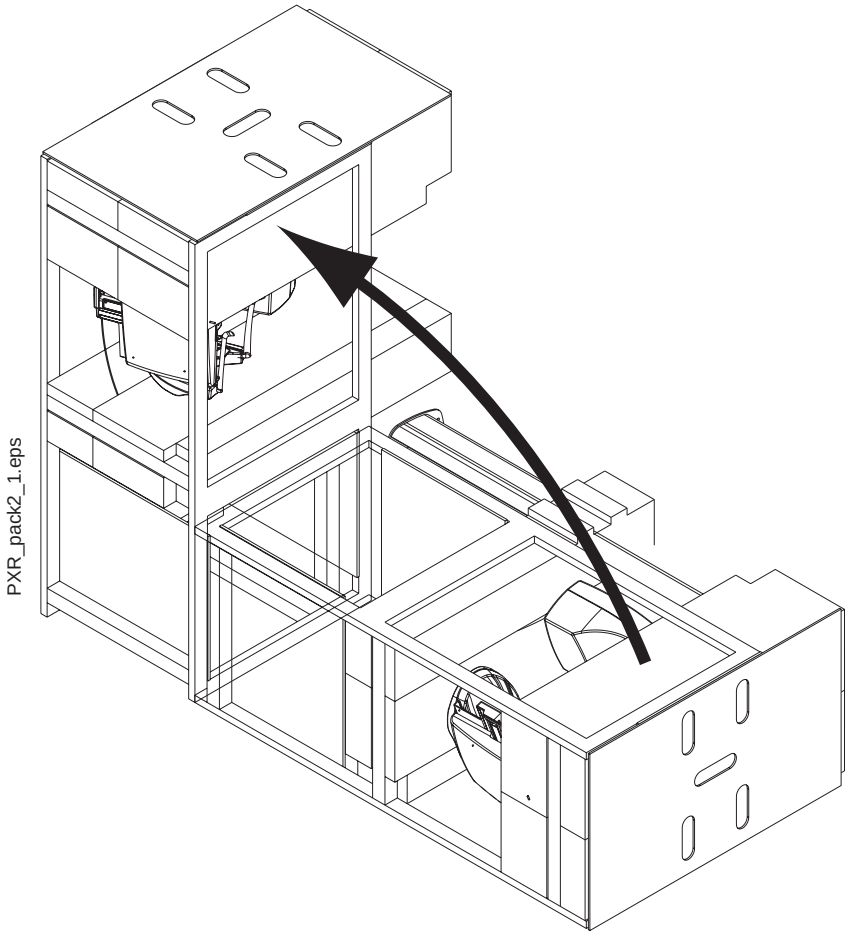


NOTE ***Do not remove the support frame until the unit has been attached to the wall. Never lift the x-ray unit from the C-arm or from the shoulder arm.***

NOTE ***In case the unit is not attached to the wall, but a free standing support is used, attach the support to the column before lifting the x-ray unit up. Refer to section 7 "ATTACHING THE FREE STANDING SUPPORT" on page 23.***

NOTE ***The felt pads can be attached to underside of the column base plate before lifting up the x-ray unit.***

Lift up the x-ray unit and its support frame.



Units with cephalostat: Remove the cephalostat from its package. Note, that the cephalostat arm is attached to the package with the parts that you will need when you attach the cephalostat arm to the x-ray unit column.

6 INSTALLING THE UNIT TO THE WALL

NOTE ***When not attaching the unit to the wall, a free standing support must be used. Refer to section 7 "ATTACHING THE FREE STANDING SUPPORT" on page 23.***

6.1 Attaching the unit to the wall

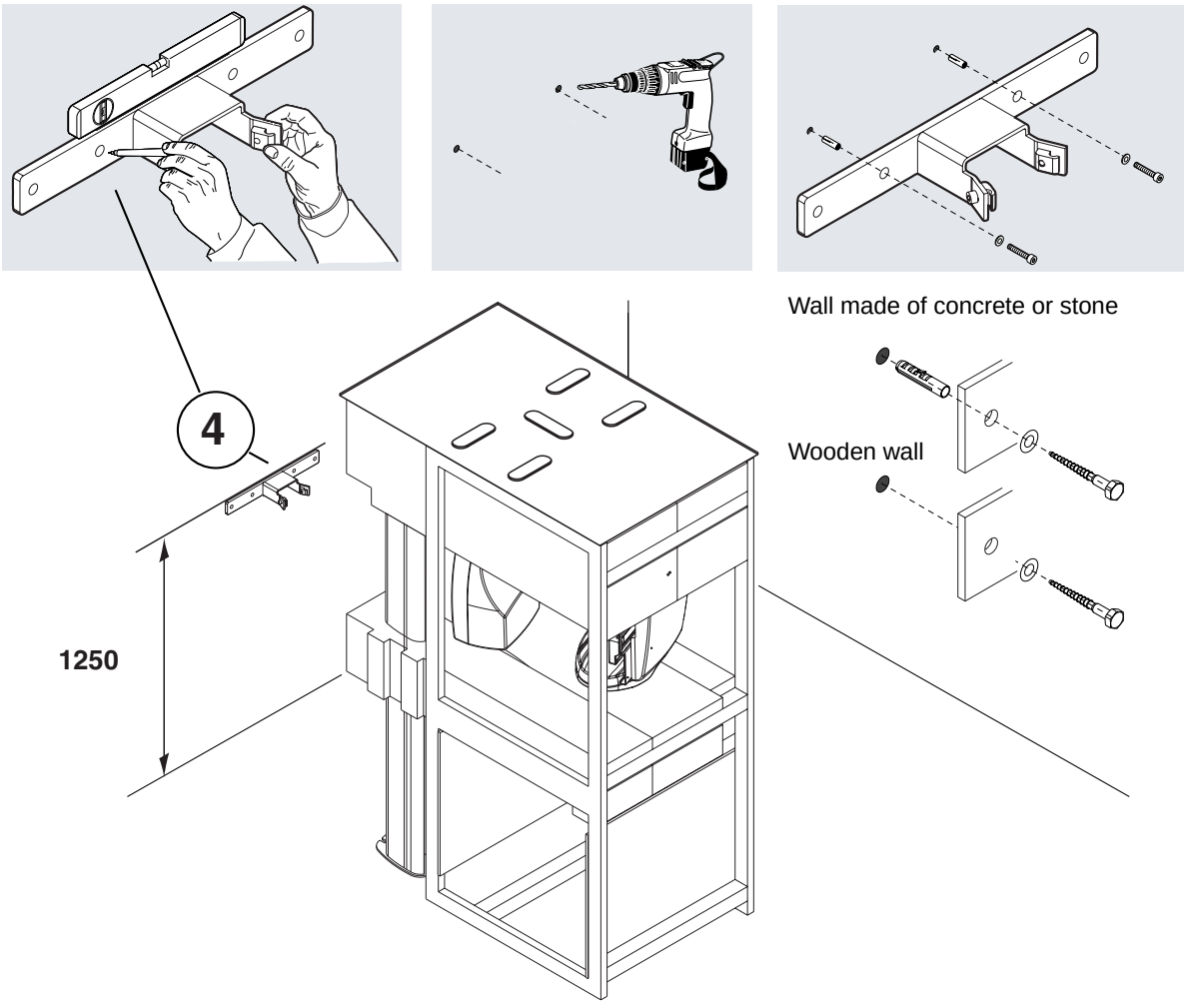
Use the wall bracket to mark the position of the mounting screws. Either two or four screws can be used to secure the bracket to the wall. The bracket is positioned approximately 1250 mm (49.2 in.) from the floor. Use a spirit level to ensure that the wall bracket is level.

If the wall is made of concrete or brick, use the 10x70 DIN 571 lag screws and the 14x70 expansion anchors. Drill ø14mm (0.55 in.), 85 mm (3.3 in.) in depth, securing holes and place the expansion anchors onto the holes.

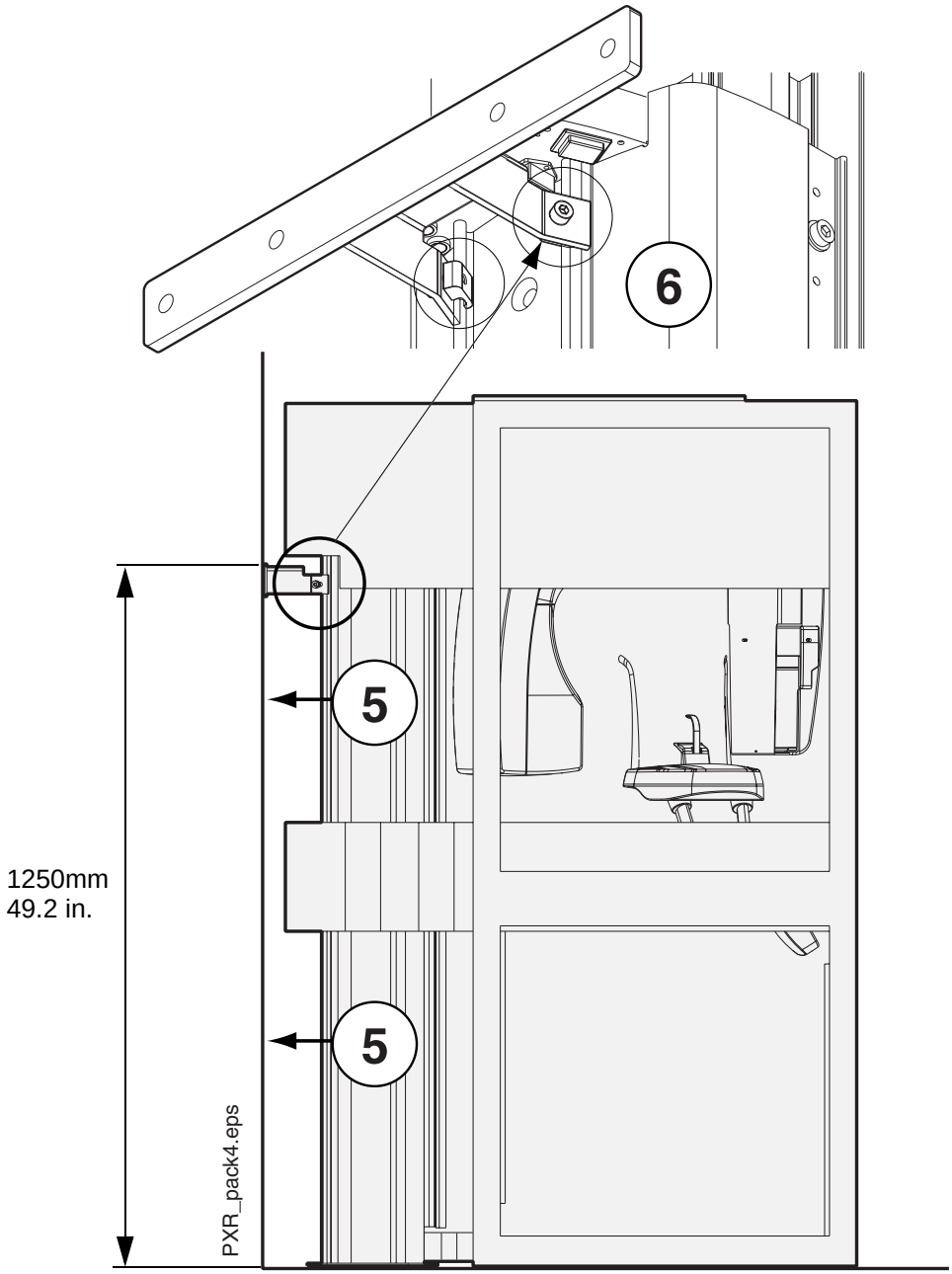
If the wall is made of wood, use the 10x70 DIN 571 lag screws. Do not use the expansion anchors with wooden wall. Drill ø7 mm (0.3 in.), 70…75 mm (2.75..3 in.) in depth, holes for the attachment screws.

Attach the wall bracket to the wall. If You use smaller anchors and/or screws than recommended, it is recommended to use four attachment screws.

NOTE ***The wall bracket installation must be able to resist a pull-out force of 5518 N (551.8 kg, 1216 lbs).***

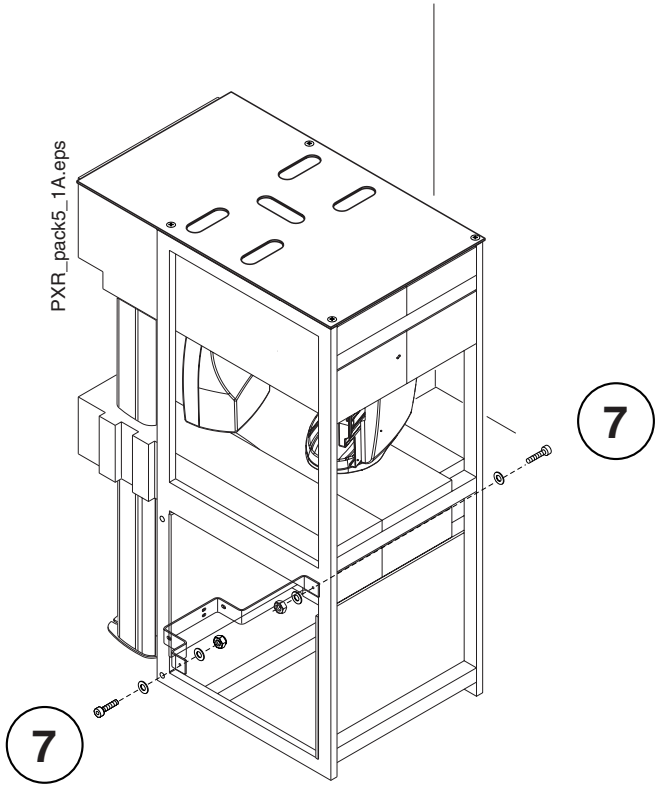


Move the x-ray into position against the wall bracket (5) and secure it to the wall bracket with the two screws (6).

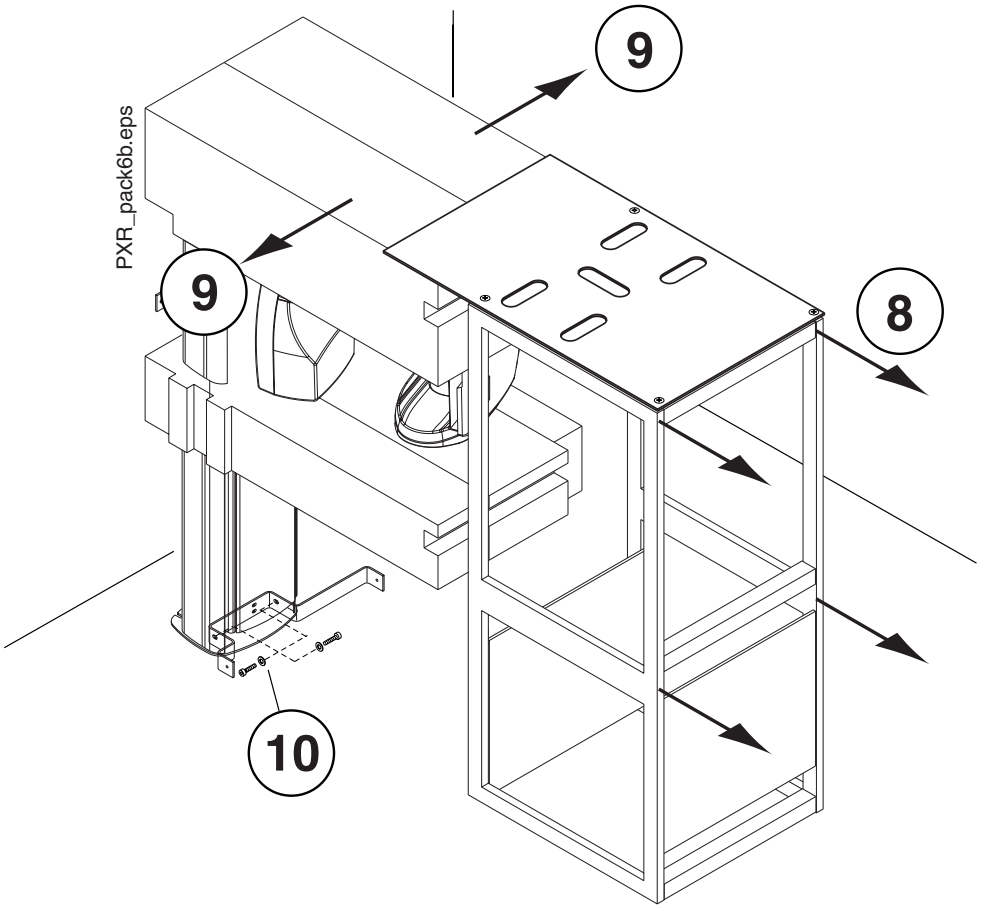


NOTE ***You can also attach the wall bracket to the unit BEFORE attaching the wall bracket to the wall. The bracket is attached to the column approximately 1250 mm (49.2 in.) from the floor.***

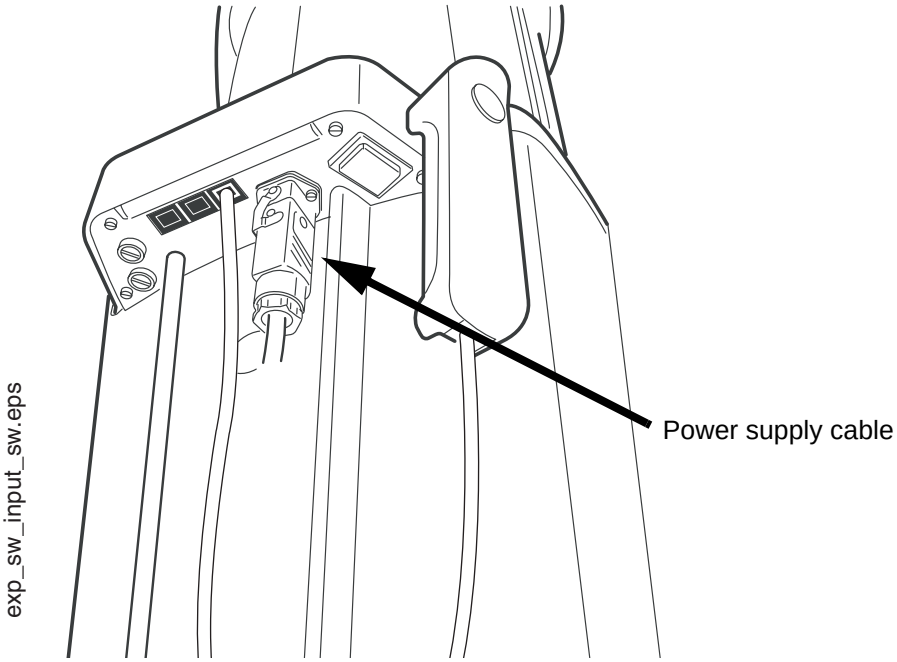
Unscrew the two attachment screws of the support frame (7).



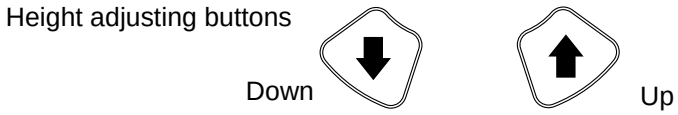
Remove the support frame (8) and the styrofoam packaging (9). Unscrew the transportation support bar side screws (M8x30 DIN 7984) (10).



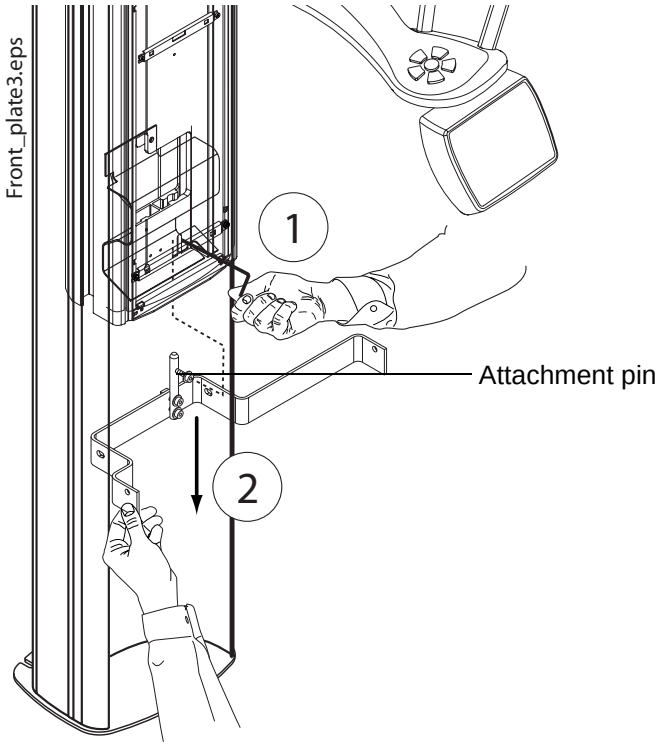
Attach the power supply cable to the connector at the underside of the stationary column top. Connect the unit to a power supply with a voltage appropriate to the unit you are installing.



Switch the unit on and drive the unit upwards so that you can remove the transportation support bar.



Unscrew the screw of the transportation support bar attachment pin with the 6mm Allen key (1) and remove the transportation support bar (2).



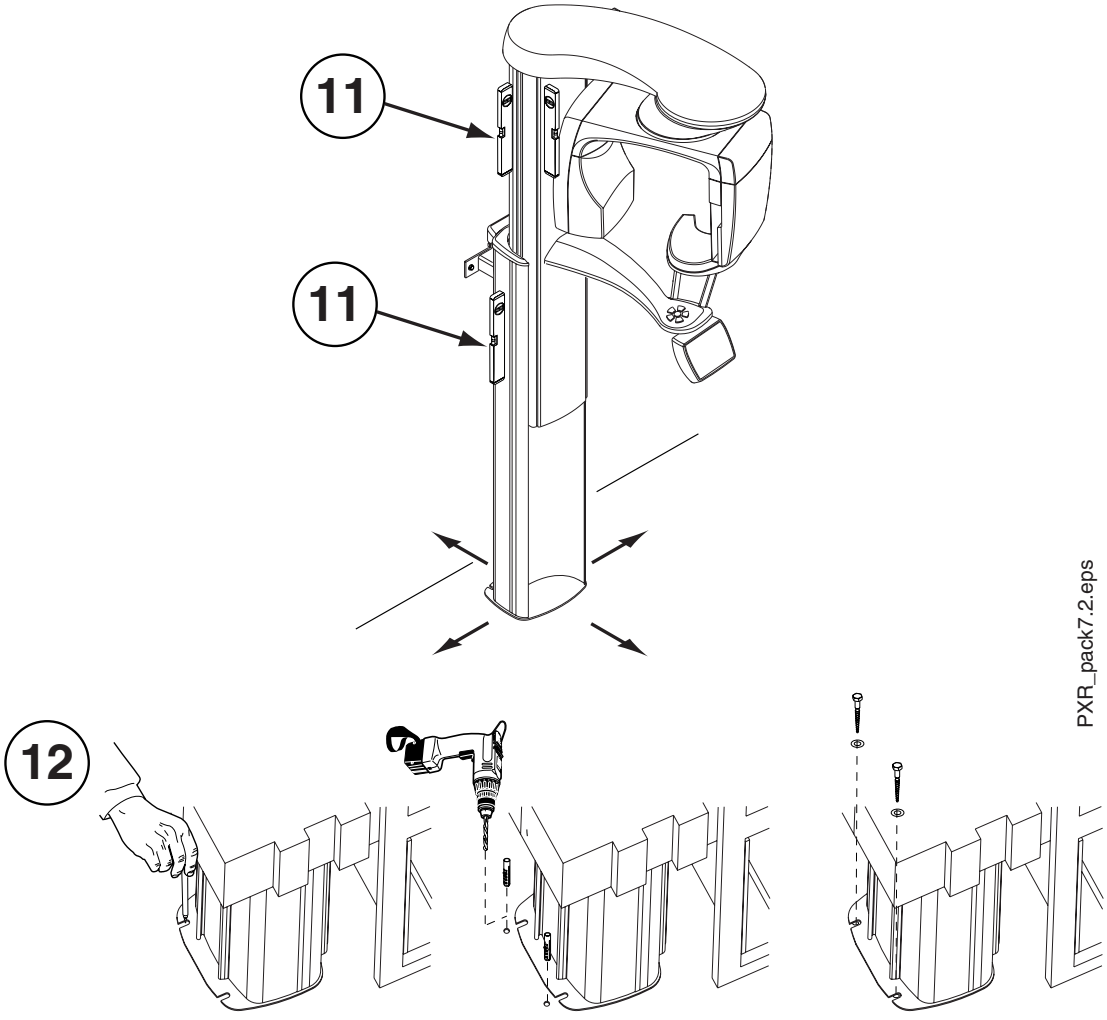
6.2 Attaching the unit to the floor

NOTE ***The ProMax x-ray unit must be attached to the wall with at least one wall bracket. If only one wall bracket is used, the unit must be attached to the floor as well. In case the unit is not attached to the floor, a second wall bracket must be used, refer to section “Attaching the second wall bracket” on page 20.***

With a spirit level make sure that the stationary column is vertical (11). If you have to make any adjustments move the base of the column. Mark the positions of the fastening holes (12).

If the floor is made of concrete or brick, use the 8x50 DIN 571 lag screws and the 10x50 expansion anchors. Drill ø10 mm (0.4 in.), 45...50 mm (1.9 in.) in depth, securing holes and place the expansion anchors onto the holes.

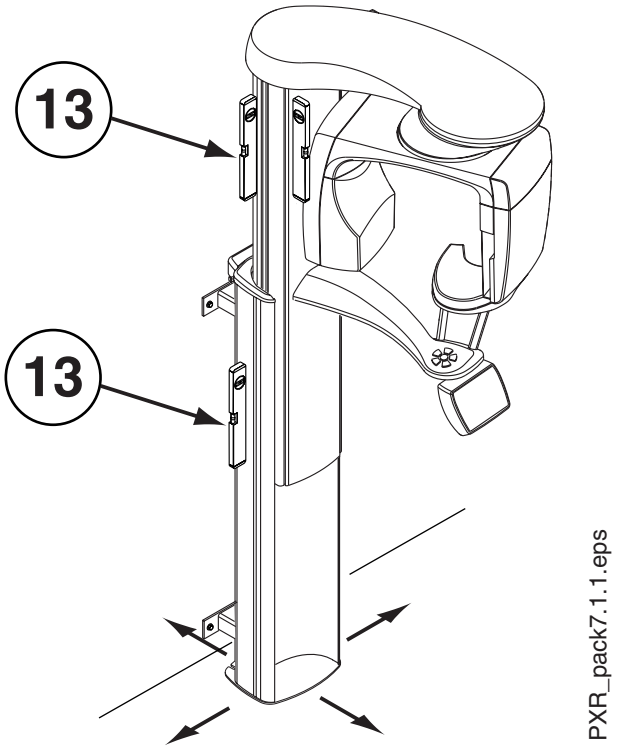
If the floor is made of wood, use the 8x50 DIN 571 lag screws. Do not use the expansion anchors with wooden floor. Drill ø5 mm (0.2 in.), 45…50 mm (1.9 in.) in depth, holes for the attachment screws.



Check the movement of the telescopic column in whole movement range by driving the column from the lowest position to the uppermost position. If needed, adjust the telescopic column position according to the instructions given in section 6.4 “Adjusting the telescopic column position” on page 21.

6.3 Attaching the second wall bracket

With a spirit level make sure that the stationary column is vertical (13). If you have to make any adjustments move the base of the column. Mark the positions of the wall bracket fastening holes and attach the bracket to the wall according to the instructions given in section 6.1 “Attaching the unit to the wall” on page 15.



Check the movement of the telescopic column in whole movement range by driving the column from the lowest position to the uppermost position. If needed, adjust the telescopic column position according to the instructions given in section 6.4 “Adjusting the telescopic column position” on page 21.

6.4 Adjusting the telescopic column position

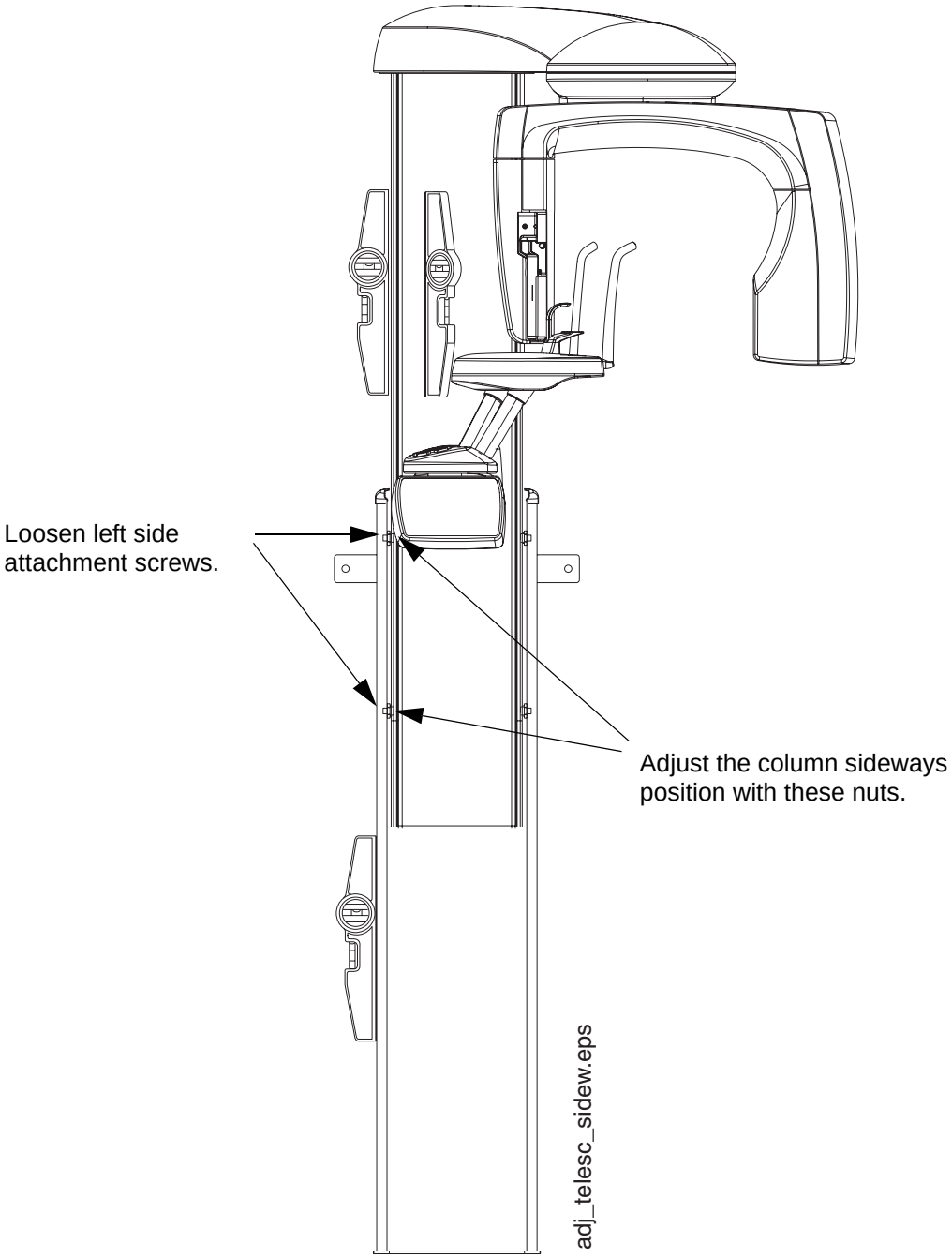
With a spirit level make sure that the telescopic column is parallel with the stationary column both in depth and sideways. In case it is not, the telescopic column position must be adjusted as described in this section.

Switch the unit on and drive the unit upwards to the position shown below.

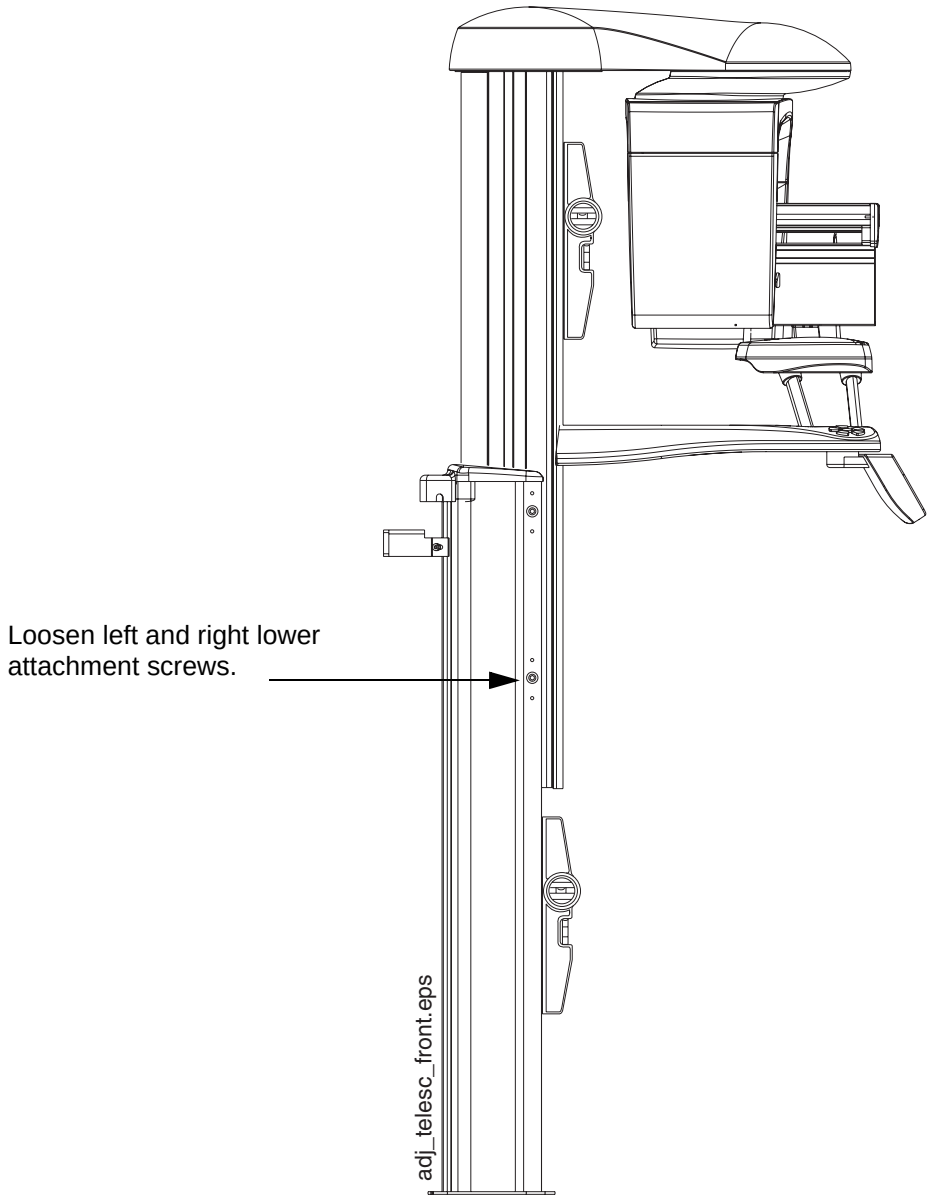
Height adjusting buttons

Down Up

To adjust the sideways position loosen the two attachment screws on the left side of the column. Rotate the nuts located between the columns so that the space between the columns on the left side is equal to the space on the right side, and the telescopic column is parallel with the stationary column. Tighten the upper attachment screw.



To adjust the column position in depth loosen the lower attachment screws located on the left and right sides of the column. Use a spirit level to check the column position and manually move the telescopic column so that it is parallel with the stationary column.



Tighten the attachment screws.

7 ATTACHING THE FREE STANDING SUPPORT

NOTE Attach the support to the column before removing the support frame and the styrofoam packaging, and before lifting the x-ray unit up.

NOTE The transportation support bar must be removed before attaching the free standing support. In case the column base plate is in its position remove it.

1. Remove the column base plate. Push **the free standing support** (1.1) into the base of the **column** (1.2). **The attachment plate** (1.3) on the support goes into the groove at the back of the column.

2. Slide **the profile fastening nut** (2.1) into the groove on the support (the thinner end first).

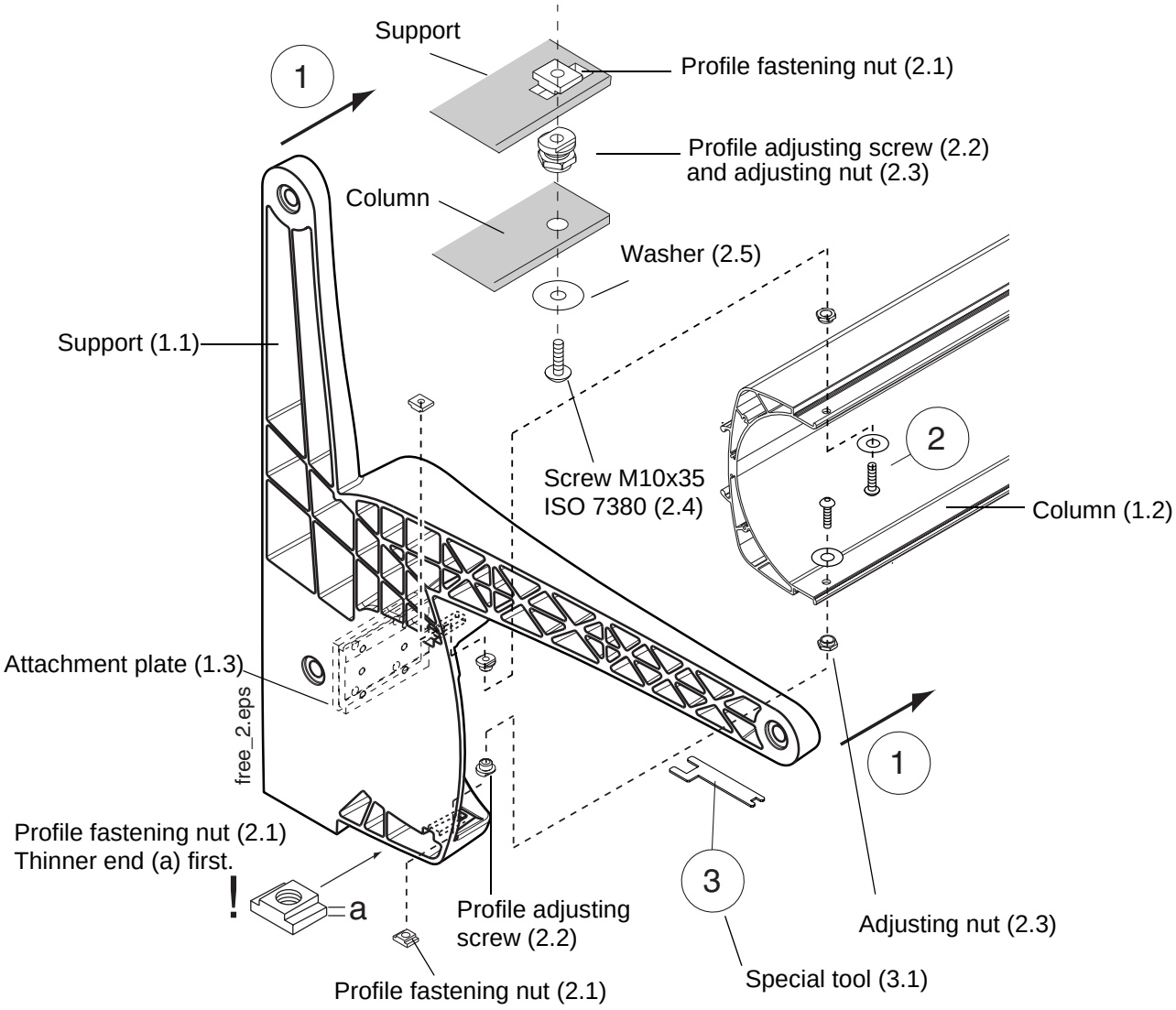
Slide **the profile adjusting screw** (2.2) and **adjusting nut** (2.3) into the groove, between the support and column (see figure below).

Attach **the adjusting screw** (2.2) and **two nuts** (2.1 and 2.3) with **M10x35 ISO 7380 screw** (2.4) and **washer** (2.5) (use the 6mm Allen key).

Attach the screws and nuts to other side of the column in the same way.

3. Adjust the nut assemblies by using a **special tool** (3.1) so that there is no play. The gap between the support and column must be equal in both sides of the column. **Do not firmly tighten the screws**, otherwise the adjustment screws may sink into to support casing, or the column profile may be twisted.

4. Tighten screws of **the support attachment plate.** Lift up the x-ray unit. Check the tightness of the screws.



5. Remove paint from the joint surfaces of the support and leg, if needed.

6. Place the support attachment plate onto its position.

7. Attach the leg to the support with the three M10x40 DIN 912 screws and ø10 DIN 125 washers using the 8mm Allen key.

8. Looking from the top check that the leg front and back surfaces are on the same level as the support front and back surface (arrows).

9. Tighten the two M10x10 DIN 914 fastening screws of the support attachment plate.

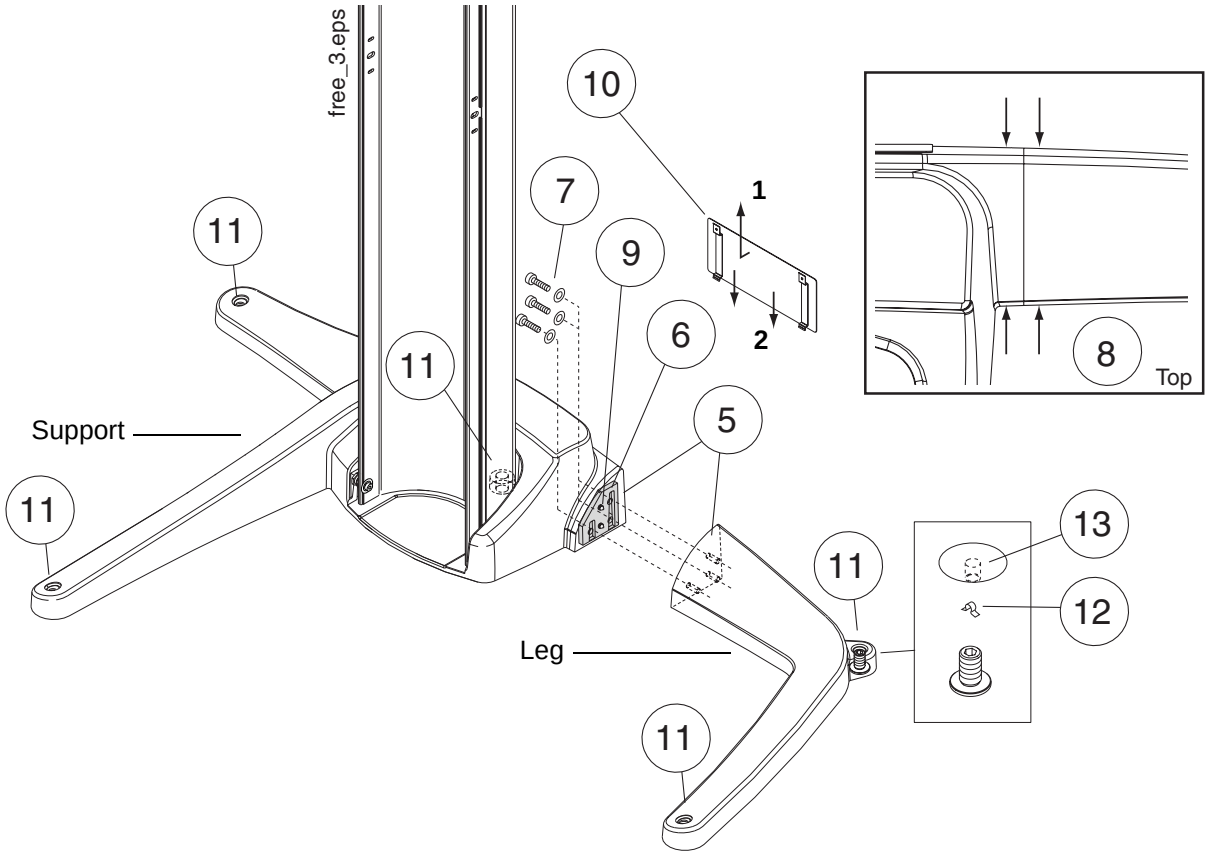
10. Place the back cover plate to the support.

Remove the support frame and the styrofoam packaging according to the instructions given in page 17.

11. With the spirit level make sure that the stationary column is vertical. Adjust the five levelling feet, if needed.
It is recommended to attach the x-ray unit to the floor with appropriate attachment screws (e.g. 6x60 countersunk screws). If the floor is made of concrete or stone, use expansion anchors.

12. Insert the cover plug holders into the levelling feet openings e.g. by slightly pressing them with pointed pliers. The height of the holder influences the attachment height of the cover plug. Adjust the holder to proper height by rotating it.

13. Press the cover plugs to the feet openings.



Check the telescopic column position according to the instructions given in section 6.4 “Adjusting the telescopic column position” on page 21.

8 INSTALLING THE EXPOSURE SWITCH

NOTE ***The exposure switch must be located in a position that satisfies the local radiation safety regulations with regards to operator safety and the shielding of x-ray equipment. The exposure switch can be mounted on the wall, or it can be hung from the hook provided on the stationary column top if a protected area is within reach.***

CAUTION ***Only the Planmeca cross connection spiral cable, part number 10001193, can be used between the ProMax x-ray unit and exposure switch. This cable can be lengthened with an RJ12 Coupler and a Modular extension cable (6wire with 2xRJ12).***

In case of remote installation use the Exposure extension cable (part number 10005679) between the proMax x-ray unit and the wall box, and the Telephone cable (part number 0630032) between the two wall boxes. The wiring of the remote installation is shown on the diagram at the end of this manual. Attach the telephone cable to a wall or put it in a cable conduit.

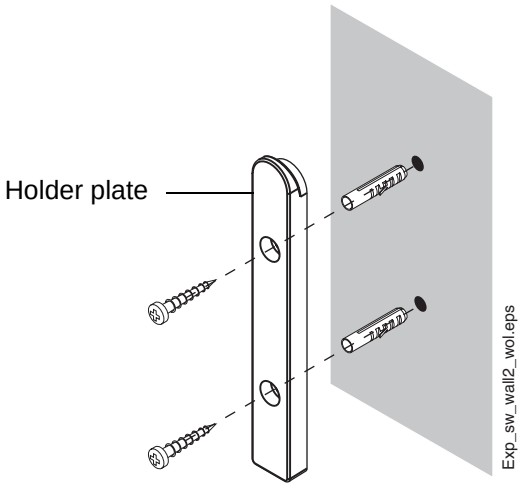
8.1 Movable exposure switch

Use the holder plate to mark the position of the exposure switch.

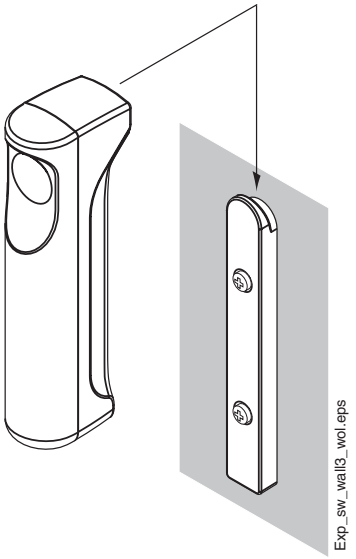
If the wall is made of concrete or brick, use the 4x30 screws and the 6x30 expansion anchors. Drill ø6mm (0.23 in.), 20 mm (0.8 in.) in depth, securing holes and place the expansion anchors onto the holes.

If the wall is made of wood, use the 4x30 screws. Do not use the expansion anchors with wooden wall. Drill ø3 mm (0.11 in.), 20 mm (0.8 in.) in depth, holes for the attachment screws.

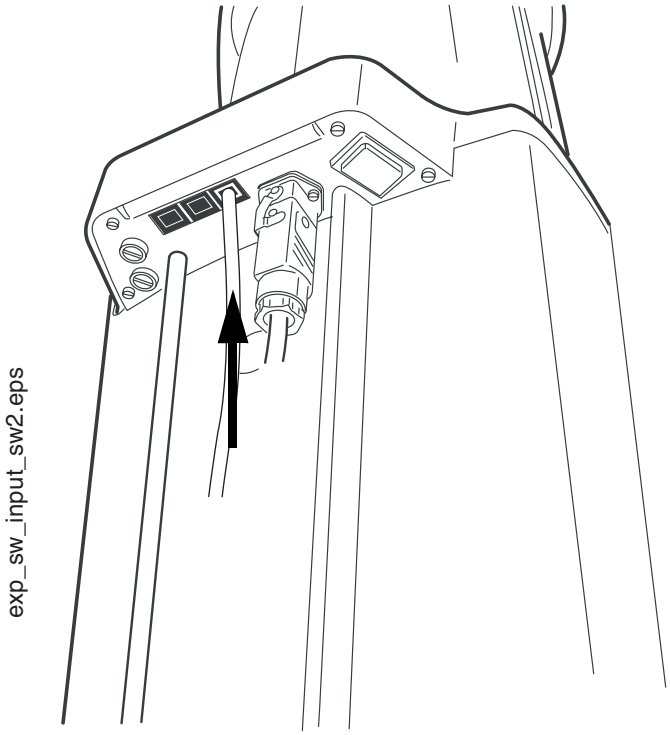
Attach the holder plate to the wall with the two attachment screws.



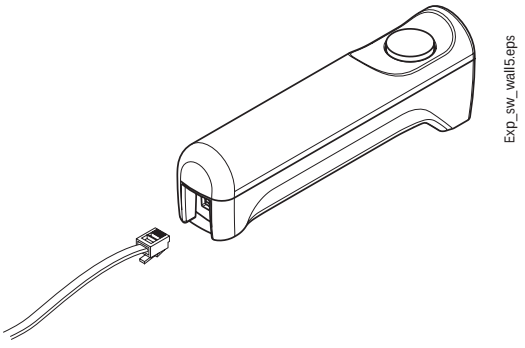
The exposure switch can now be attached to the holder plate.



Connect the exposure switch cable to the right terminal (marked “EXP”) at the underside of the stationary column top.



Connect the exposure switch cable to its terminal at the underside of the switch.



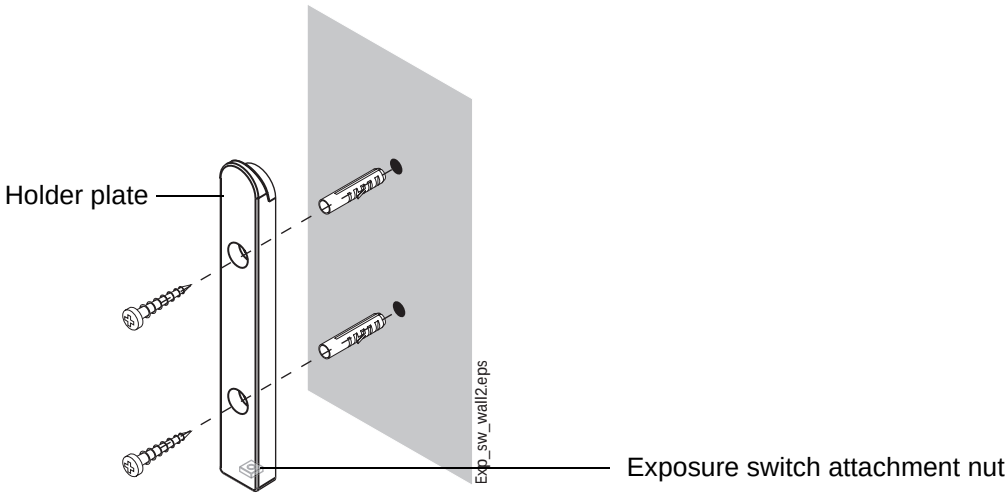
8.2 Stationary exposure switch

Use the holder plate to mark the position of the exposure switch.

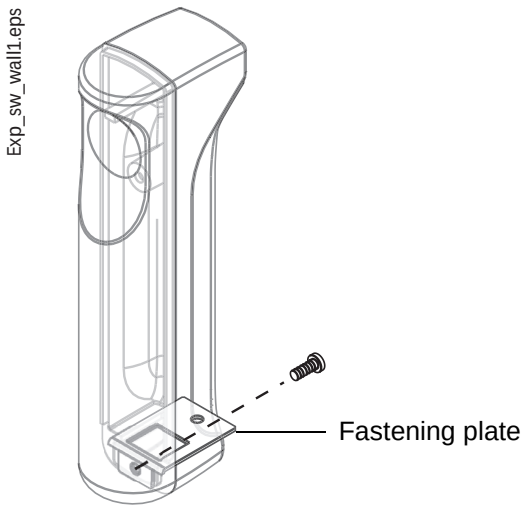
If the wall is made of concrete or brick, use the 4x30 screws and the 6x30 expansion anchors. Drill ø6mm (0.23 in.), 20 mm (0.8 in.) in depth, securing holes and place the expansion anchors onto the holes.

If the wall is made of wood, use the 4x30 screws. Do not use the expansion anchors with wooden wall. Drill ø3 mm (0.11 in.), 20 mm (0.8 in.) in depth, holes for the attachment screws.

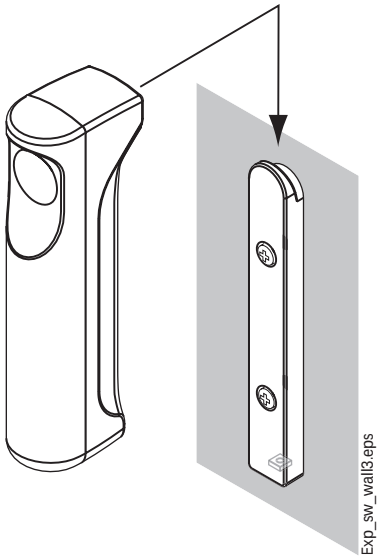
Make sure that the exposure switch attachment nut is in its position at the lower end of the holder plate. Attach the holder plate to the wall with the two attachment screws.



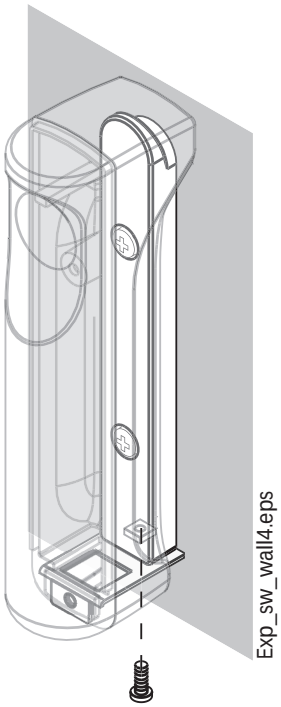
Attach the fastening plate to the exposure switch with EJOT PT 30x8 WN1451 screw.



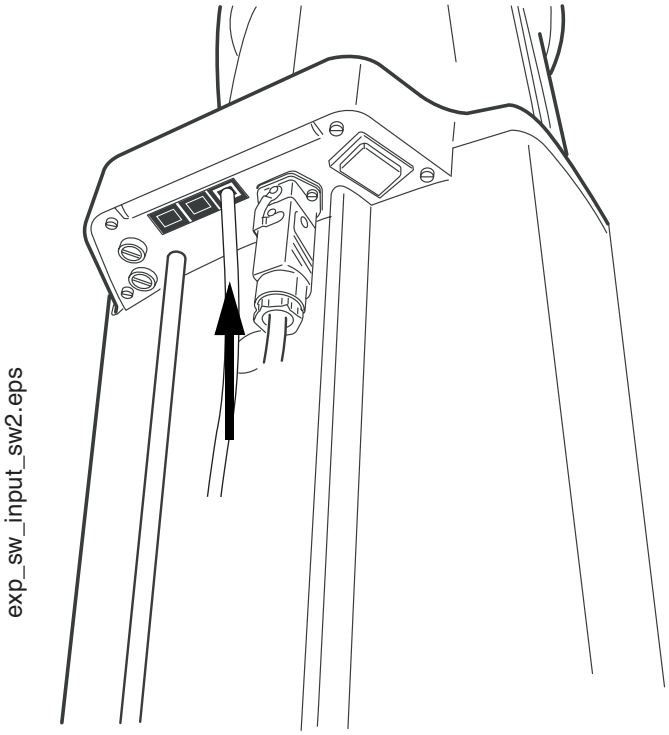
Position the exposure switch can to the holder plate.



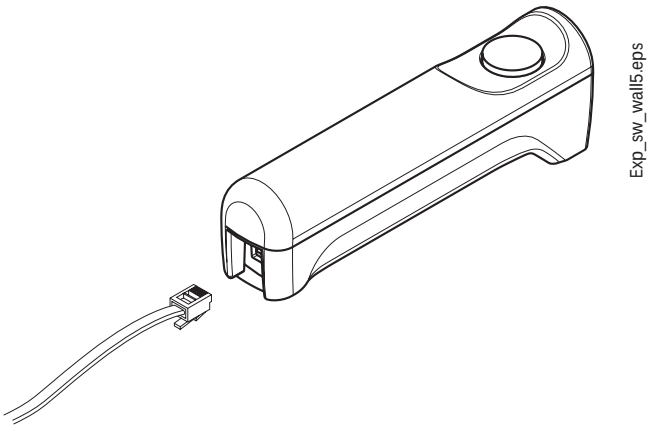
Attach the exposure switch to the holder with M3x10 DIN 912 screw.



Connect the exposure switch cable to the right terminal (marked “EXP”) at the underside of the stationary column top.



Connect the exposure switch cable to its terminal at the underside of the switch.



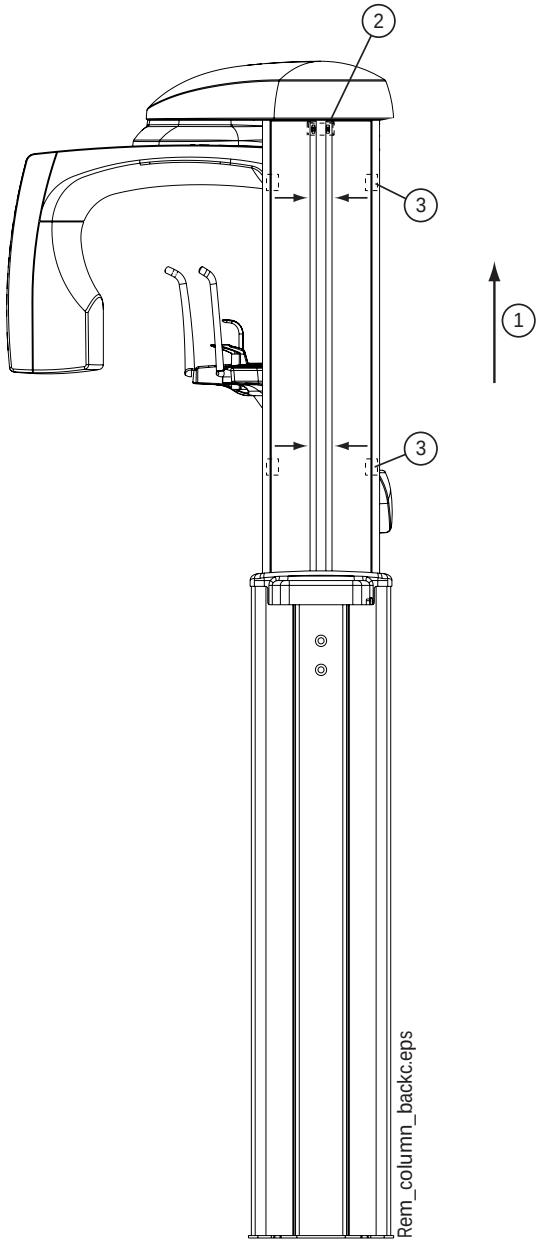
9 INSTALLING THE FILM-BASED CEPHALOSTAT

NOTE ***The installation of the digital cephalostat is described in section 11 “INSTALLING THE DIGITAL CEPHALOSTAT” on page 51.***

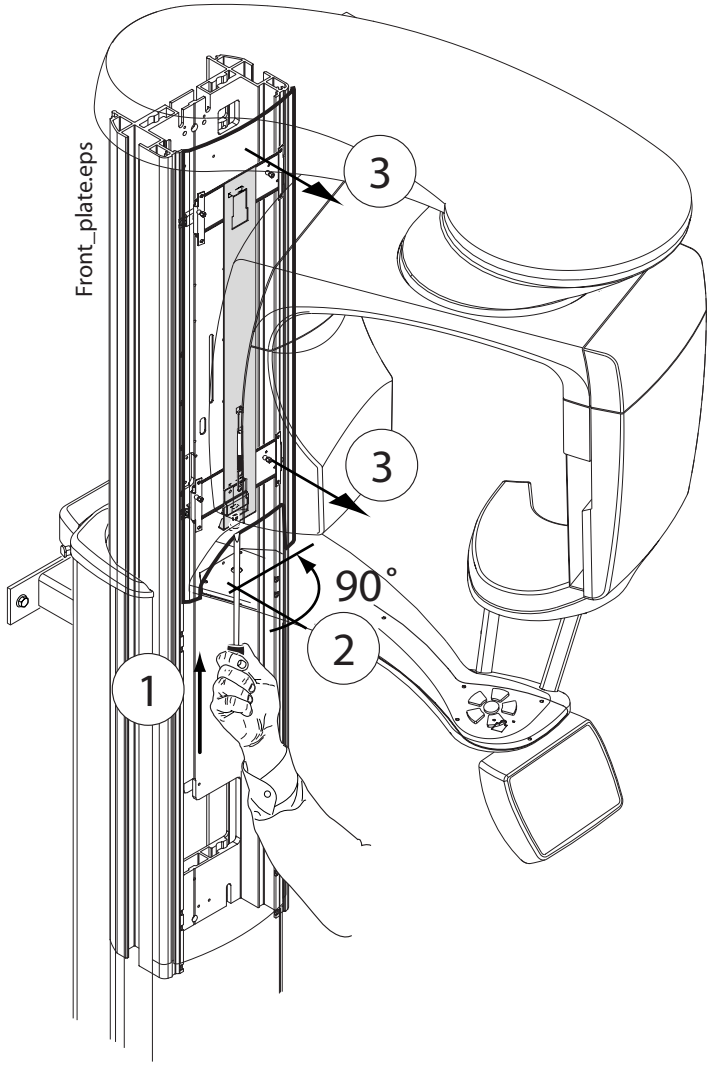
9.1 Attaching the cephalostat to the x-ray

NOTE ***This section describes how to attach the Ceph CA or Ceph CM to the ProMax x-ray unit. Please note, that the Ceph CM version does not include the cephalostat cable.***

If the two rear cover plates are attached to the unit remove them. Switch the unit on and drive the telescopic column to the uppermost position (1). Switch the unit off. Detach the upper inner corner of the cover plate by carefully pulling it outwards (2). Detach the cover plate by pushing the cover plate inwards (see small arrows on the figure below) (3).

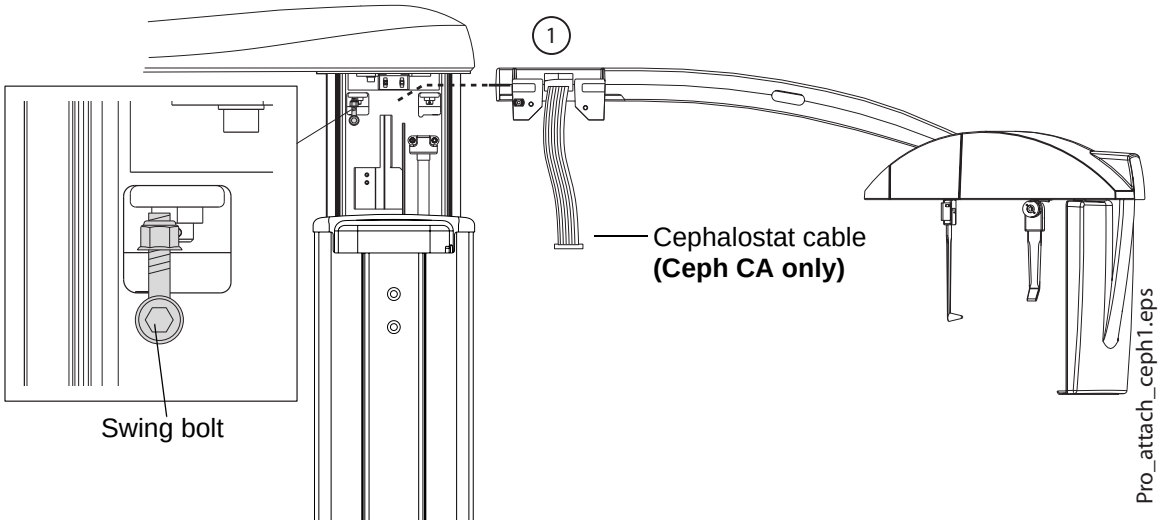


Switch the unit on, lower the column to the appropriate working height and switch the unit off. Detach the telescopic column front panel. In case it is locked to its position, push the locking screw located behind the front panel (1) and turn the screw 90° counterclockwise (2). Detach first the lower part of the panel from the column and then pull the panel out from its position (3).

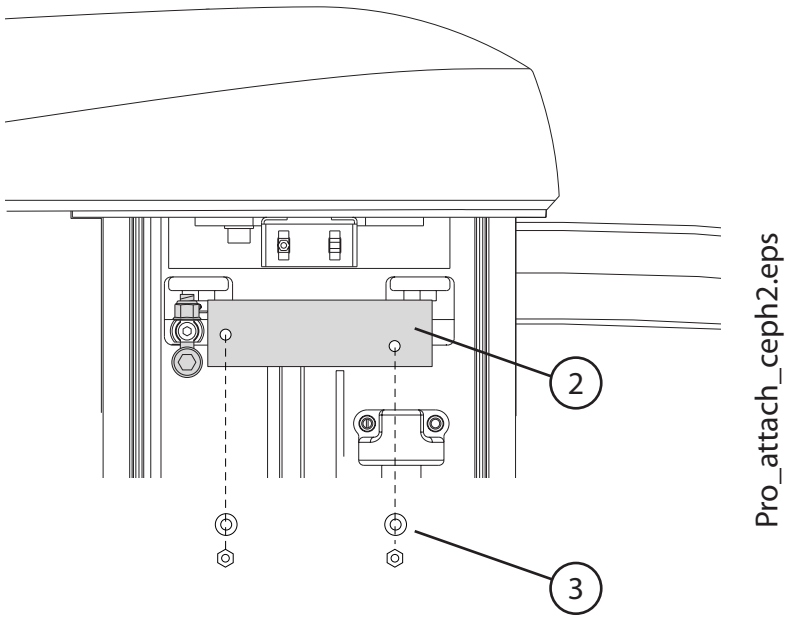


The nut of the swing bolt is adjusted to the correct height at the factory. Do not move the nut.

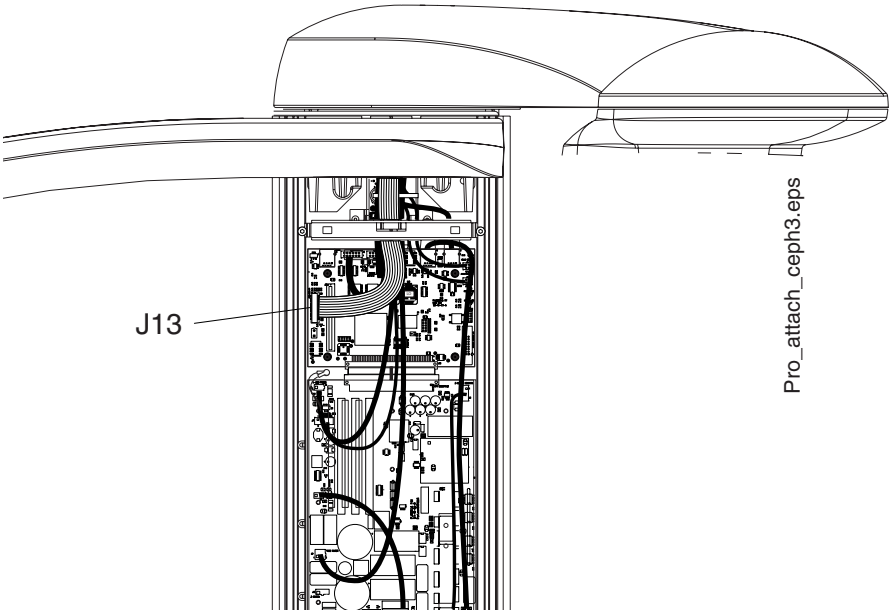
Lift the cephalostat to the front of the telescopic column so that the attachment screws go through the openings on the column. **Ceph CA:** Be careful not to damage the cephalostat cable (1).



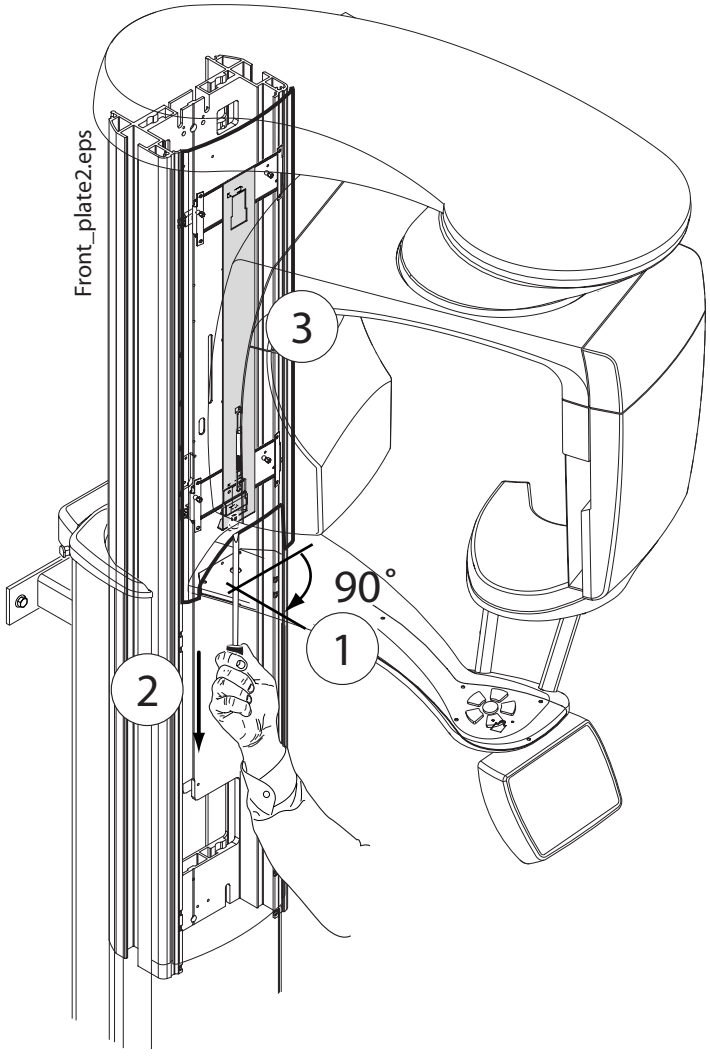
Place the attachment plate to its position (2) and attach it with the two washers and nuts (3). Tighten the attachment nuts firmly.



Ceph CA: Connect the cephalostat cable to the connector J13 on the CPU PCB.



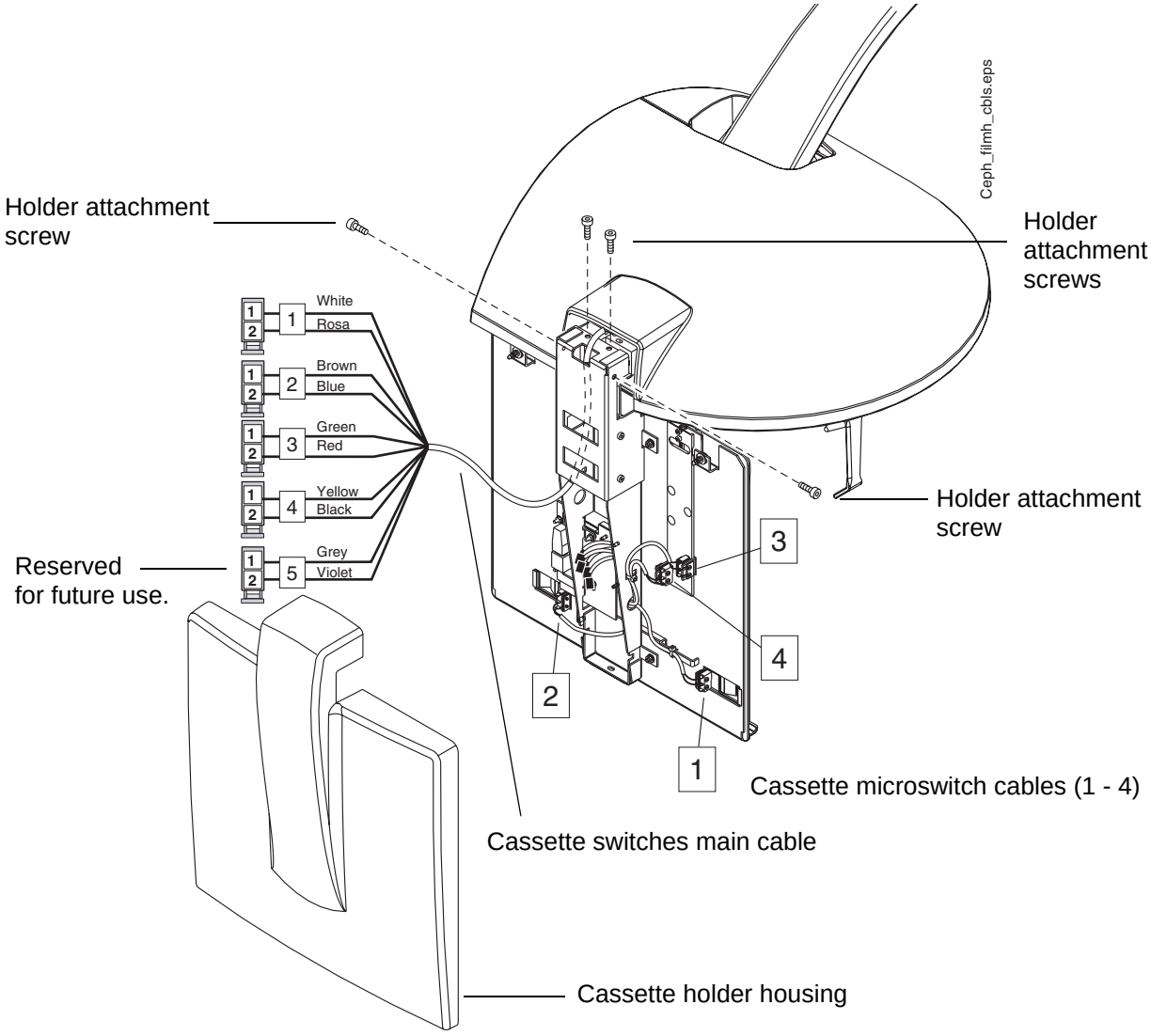
Attach the removed covers to the unit. Check that the front cover of the telescopic column is locked to its position, i.e. the panel locking bolt is in lower position. If it is not, turn the locking bolt located behind the front panel 90° clockwise.



9.2 Attaching the cassette holder to the cephalostat head support

Attach the cassette holder to the head support with the four attachment screws.

Ceph CA: Connect the cassette switches main cable coming from the head support to the cassette microswitch cables (1 - 4) located on the cassette holder according to the figure below.



The cassette holder housing is attached to the holder with velcro tapes. Press the cassette holder housing firmly to its position.

10 DIMAX3 DIGITAL SYSTEM INSTALLATION

NOTE ***The installation of the digital cephalostat is described in section 11 "INSTALLING THE DIGITAL CEPHALOSTAT" on page 51.***

NOTE ***If a Planmeca Dixi 2 Ethernet system needs to be connected to the same PC together with the ProMax/Ethernet configuration then a Hub/Switch is needed. Refer to the Planmeca Dixi2 user's and installation manual, publication number 688260.***

10.1 ProMax Ethernet link configuration

CABLING OPTIONS

1. Direct connection

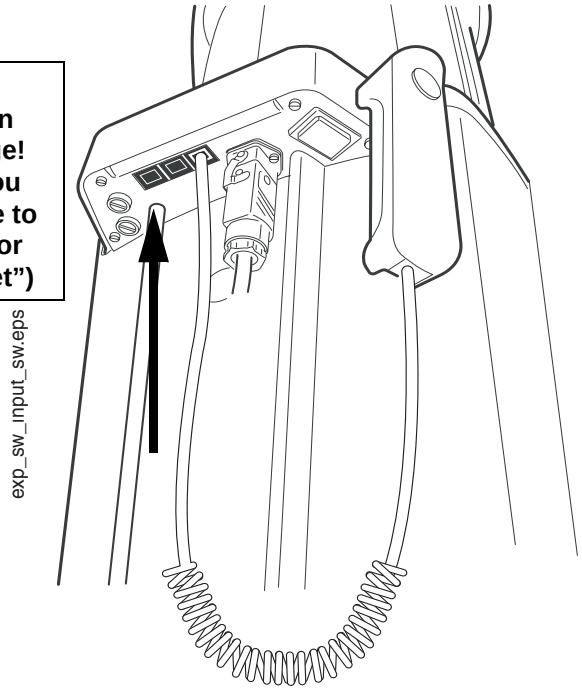
The ProMax unit is connected directly to the stand alone PC's LAN/Ethernet port. Use an Ethernet Crossover cable (10009912) to connect the ProMax to the PC.

2. Remote connection

The ProMax unit is connected to the 10/100 Base network and used from a Remote PC with the Dimaxis imaging software. Use an UTP cat5e cable (06320060) to connect the ProMax to the 10/100 Base Network.

The UTPcat5e cable (06320060) or the Ethernet Crossover cable (100009912) is attached to the left terminal (marked "ETHERNET") at the input module of the stationary column.

WARNING!
Wrong connection can cause damage! Make sure that you connect the cable to the right connector (marked "Ethernet")



exp_sw_input_sw.eps

The different cabling configurations are described in the cabling images in the end of this document.

NOTE ***The Ethernet Crossover Cable can be lengthened with RJ45 Coupler (10002209) and a max. 10 m UTP cat5e Patch Cable (06320060). The total length of the Ethernet Crossover cable can be max. 100 m.***

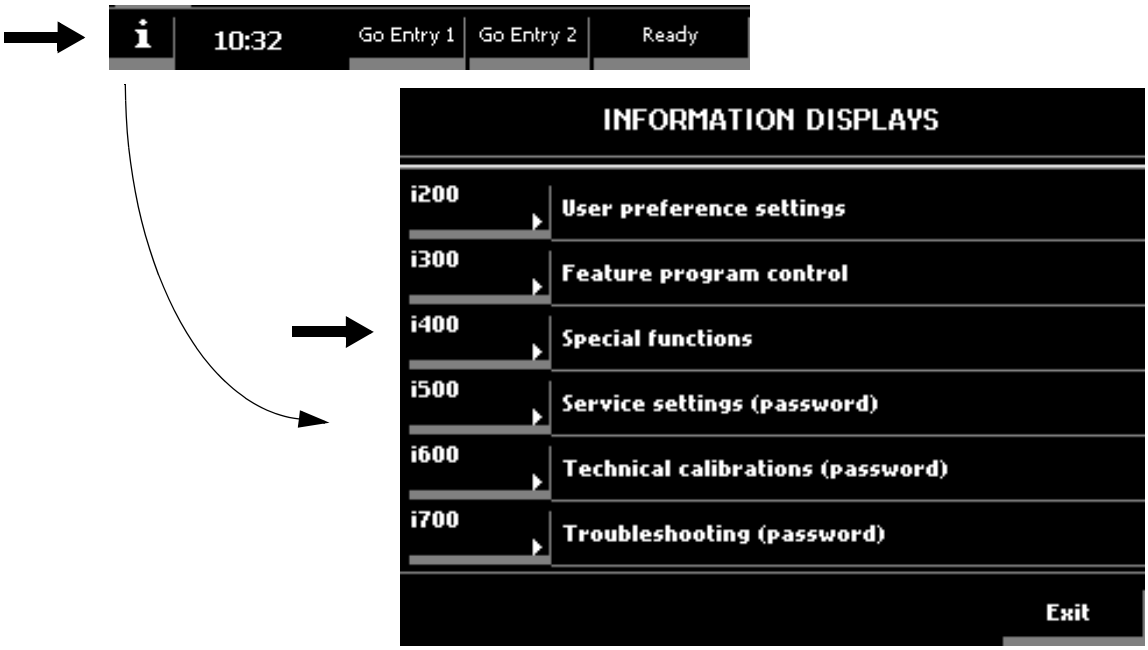
PROMAX ETHERNET SETTINGS

The TCP/IP settings for different Network layout options are explained in the image “ProMax Remote/Ethernet Configuration” attached to the end of this document. To enable the communication of the ProMax through the Ethernet link:

1. The correct Ethernet link cables needs to be attached to the unit (see previous chapter).
2. ProMax needs to be configured from the Network settings menu (explained in the becoming chapters).
3. The used Ethernet link IP Addresses and the configured Net Password must be defined into the DIDAPI configuration (ProMax Ethernet Interface settings). Refer to the Dimaxis Pro/ Classic, Installation manual (10006119), Version 6, Appendix G.

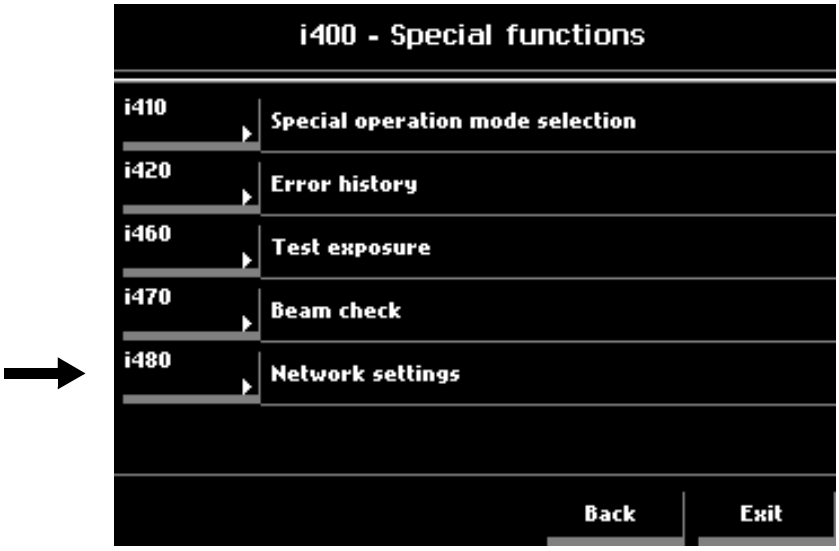
NOTE ***The ProMax Ethernet link configuration requires at least the ProMax software version 1.17.0.0.R, the GUI software version 1.08.0.0.R and the PLANMECA Dimaxis Pro/Classic software version 3.2.3.***

ProMax Ethernet settings are configured from the **Special function** mode which can be found on the **Information displays.** Touch the **i**-field on the Main display. The list of **Information displays** appears.

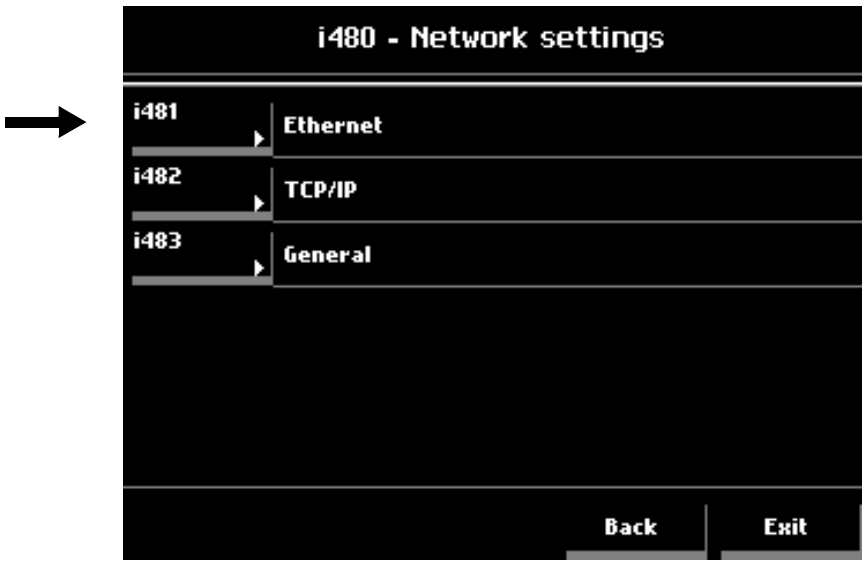


From the list of **Information displays** select **Special functions (i400).**

Select **Network settings** mode selection on the **Special functions** display.

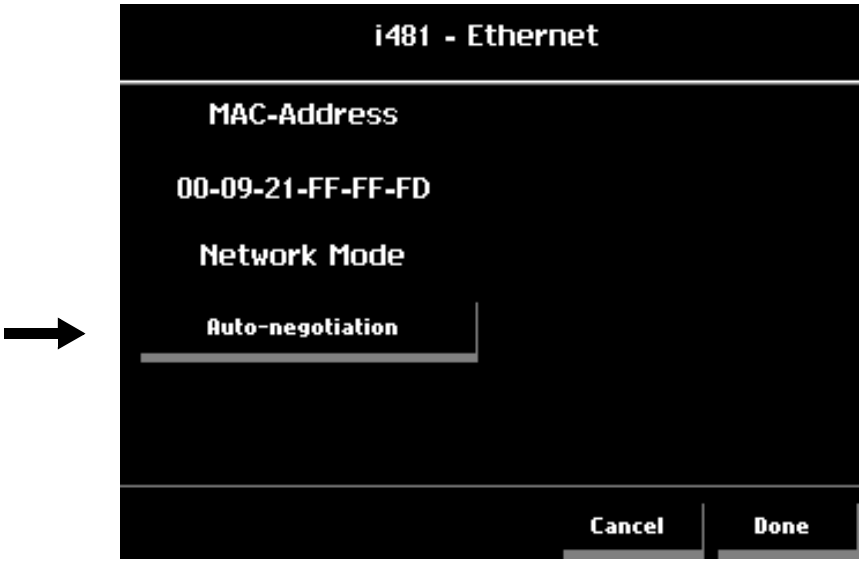


The display shown below appears.



10.2 Ethernet mode selection

Select **Ethernet** mode selection on the **Special functions** display. The display shown below appears.



The **Network Mode** can be chosen as **Auto-negotiation, 10/100 Mb Half-duplex** or **10/100 Mb Full-duplex**.

- Auto-negotiation (default value). The data is transmitted at the highest possible speed (the Ethernet link partners are able to figure out the highest speed that they each support).

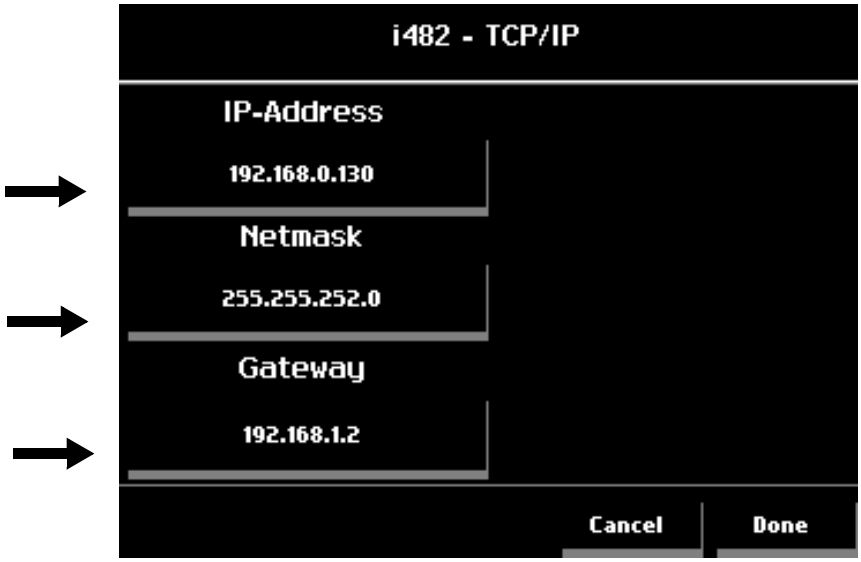
- 10/100 Mb Half-duplex. The data is transmitted in both directions on a signal carrier, but not at the same time.

- 10/100 Mb Full-duplex. The data is transmitted in both directions on a signal carrier at the same time.

NOTE The MAC-Address is equipment related and it cannot be changed.

10.3 TCP/IP mode selection

Select **TCP/IP** mode selection from the **Network settings** display (i480). The display shown below appears.



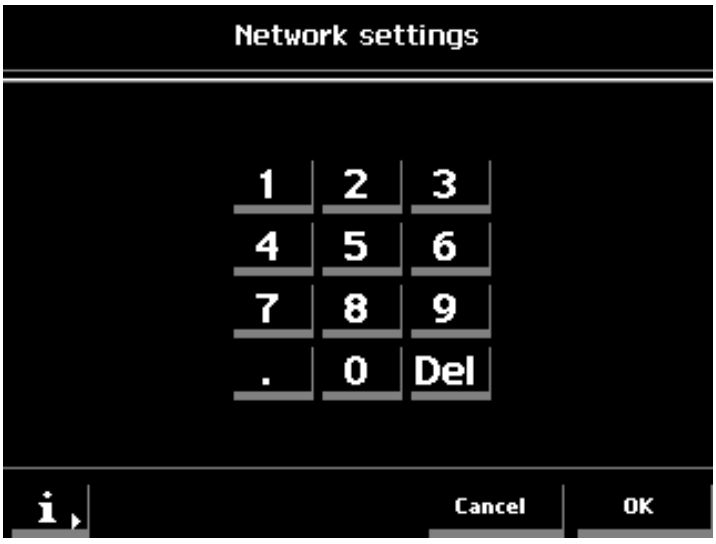
IP Address - The Ethernet interface IP Address (default value is 192.168.0.130).

Netmask - Subnet mask (default value is 255.255.252.0)

Gateway - Gateway IP address (default value is 192.168.1.2)

NOTE ***In case the ProMax is connected to a 10/100 Base Network, the Gateway, Netmask and the ProMax IP address have to be static and specified by the local administrator to be used only for this configuration.***

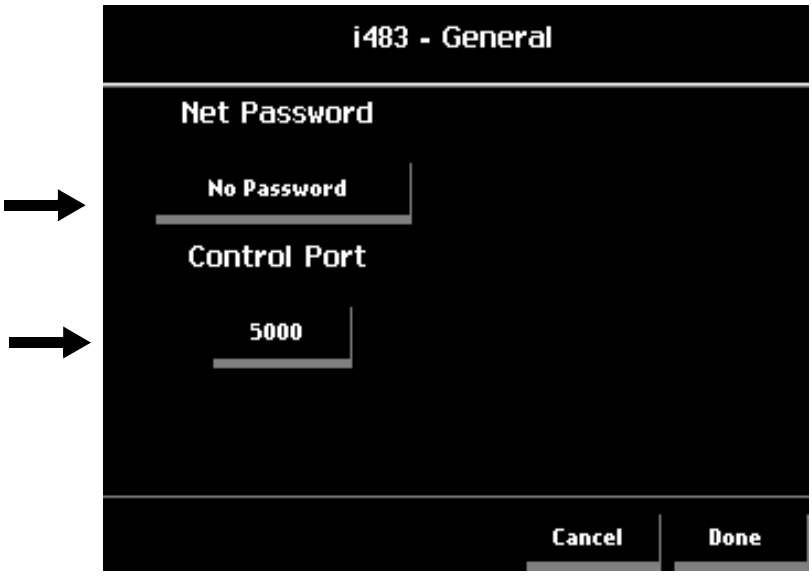
All values can be changed by pressing the value field. The following window below will appear. Type the new value and save your new setting by pressing **OK**.



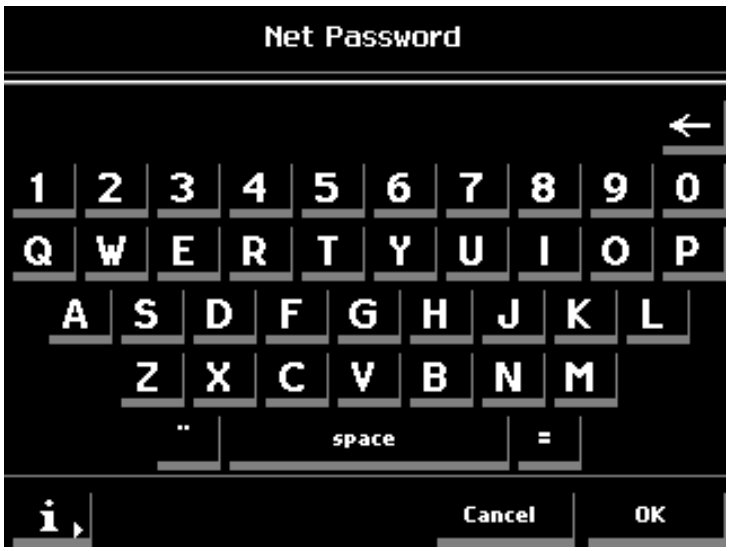
10.4 General mode selection

Select **General** mode selection on the **Network settings** display. The display shown below appears. In this mode the Net password is set for the Ethernet link and also the used TCP Control port (default value is 5000)

NOTE ***It is recommended to set a Net Password for the Ethernet link, so that it is not possible to enter the Promax unit without an authorisation.***



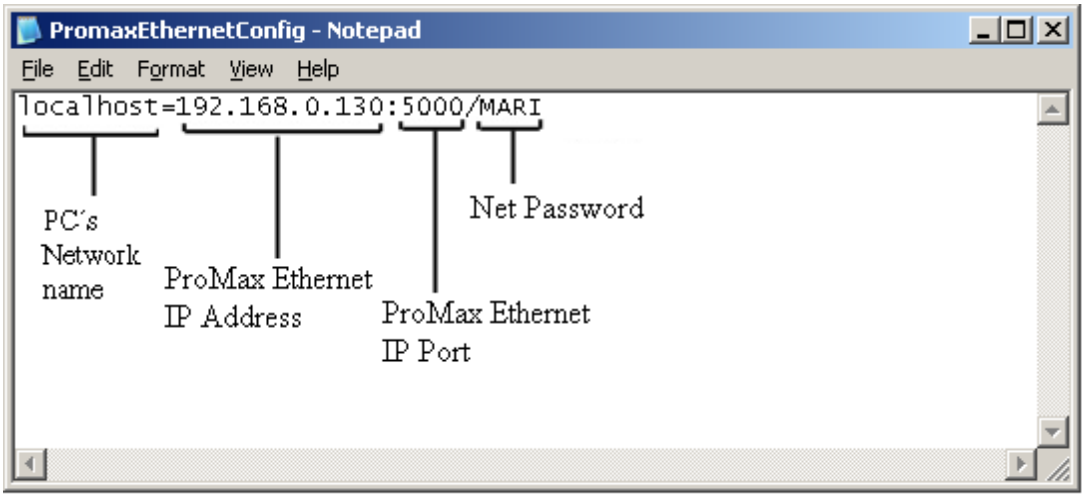
A **Net Password** can be set by the user by pressing the **No Password** button. The following window will appear.



The Net Password can be 1 to max.16 characters (no limitation of numbers or letters)**.** The new **Net Password** is saved by pressing **OK**. Now the **Net password** button shows the text **Password Set (= a net password is set)**.

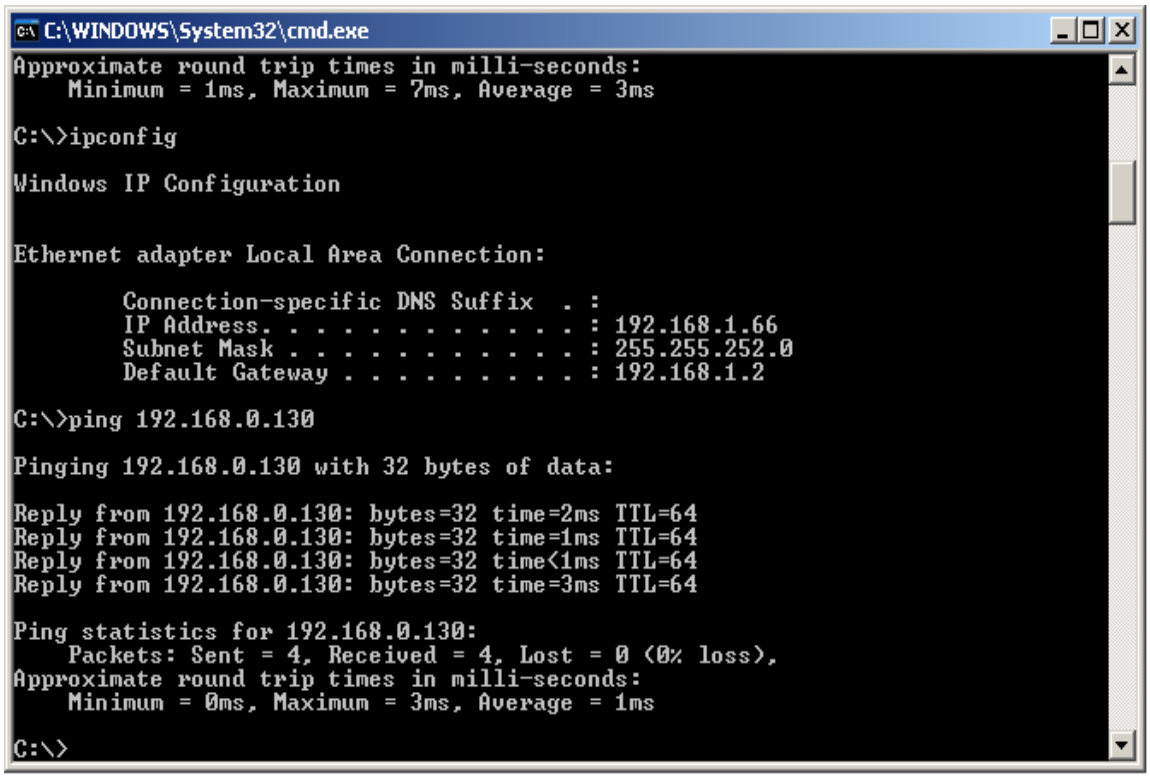
NOTE ***The Net Password can be removed by pressing the Password Set button and when the Net Password keyboard appears then by pressing OK.***

NOTE ***If a Net Password is set to the ProMax unit, then it has to be also manually updated into the DIDAPI configuration / PromaxEthernetConfig.txt-file of the Dimaxis Pro/Classic imaging software (vers. 3.2.3 or later). This file can be opened trough the DIDAPI Configuration program > Ethernet Interface Settings > PromaxEthernetConfig.txt. The Net Password is added at the end of the string after the IP port number (e.g. 5000/Net Password).***



10.5 Promax Ethernet link communication check

The Ethernet link communication from the (Remote) PC to the ProMax can be checked by opening the Command Prompt and executing the command "**ping <ProMax IP address>**", e.g. **ping 192.168.0.130**.


C:\WINDOWS\System32\cmd.exe
Approximate round trip times in milli-seconds:
Minimum = 1ms, Maximum = 7ms, Average = 3ms
C:\>ipconfig
Windows IP Configuration
Ethernet adapter Local Area Connection:
Connection-specific DNS Suffix . :
IP Address. . . . . : 192.168.1.66
Subnet Mask . . . . . : 255.255.252.0
Default Gateway . . . . . : 192.168.1.2
C:\>ping 192.168.0.130
Pinging 192.168.0.130 with 32 bytes of data:
Reply from 192.168.0.130: bytes=32 time=2ms TTL=64
Reply from 192.168.0.130: bytes=32 time=1ms TTL=64
Reply from 192.168.0.130: bytes=32 time<1ms TTL=64
Reply from 192.168.0.130: bytes=32 time=3ms TTL=64
Ping statistics for 192.168.0.130:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 3ms, Average = 1ms
C:\>

The Promax sends an **Reply** packet back in case the Ethernet link is up and running.

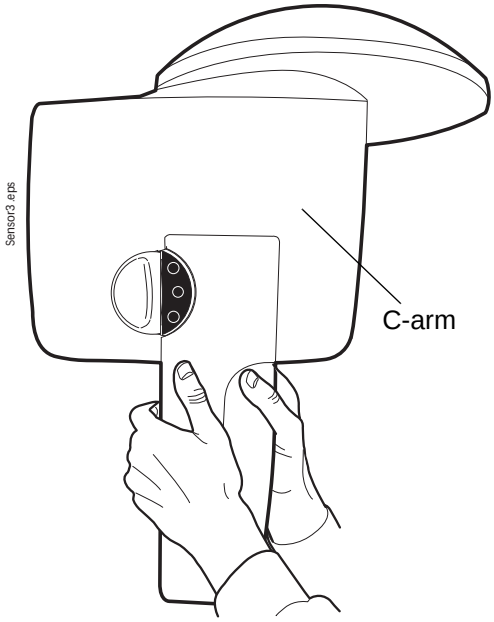
NOTE ***If no packets (e.g. Time-out signal) is received then the link is not working properly.***

10.6 Attaching and removing the movable sensor head

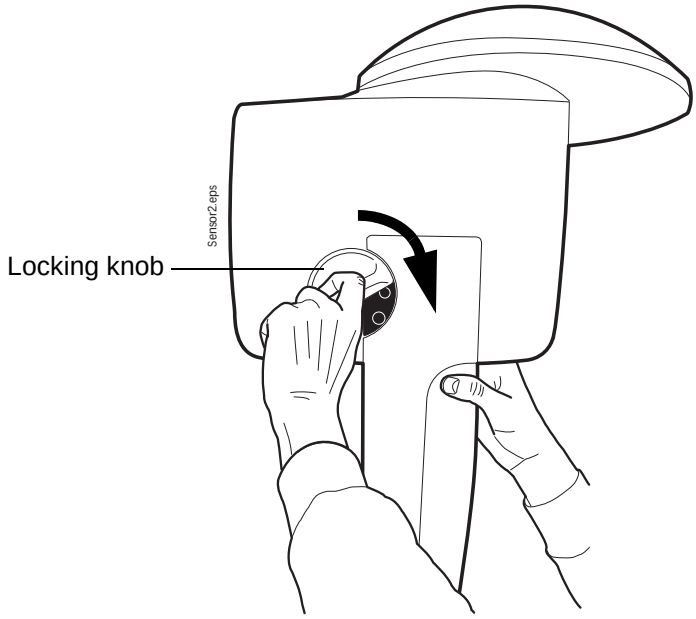
NOTE ***If the unit is equipped with fixed sensor head, attach the sensor head to the adapter according to the instructions given in section 10.7 "Attaching and removing the fixed sensor head" on page 45.***

Attaching the sensor head to the C-arm

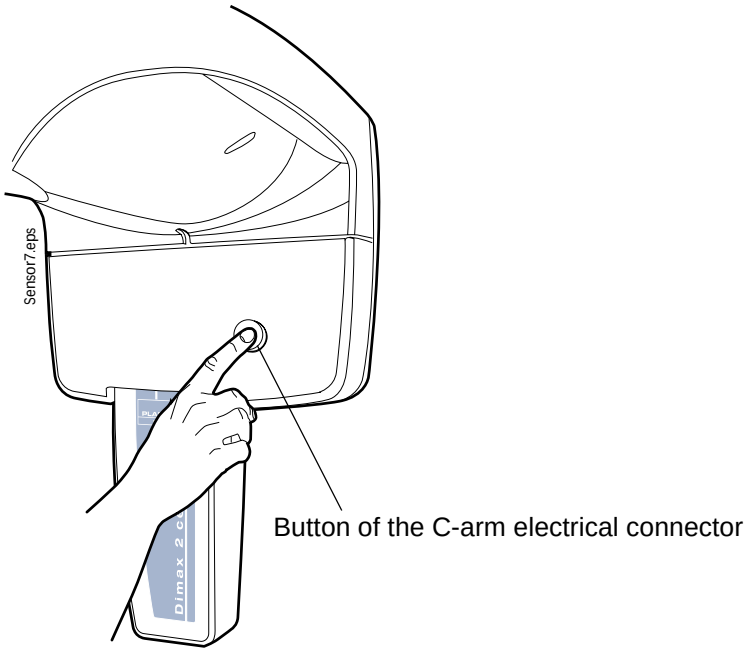
Push the sensor head onto the adapter on the C-arm.



Turn the locking knob over the fastening mechanism. This will secure the sensor head in position.



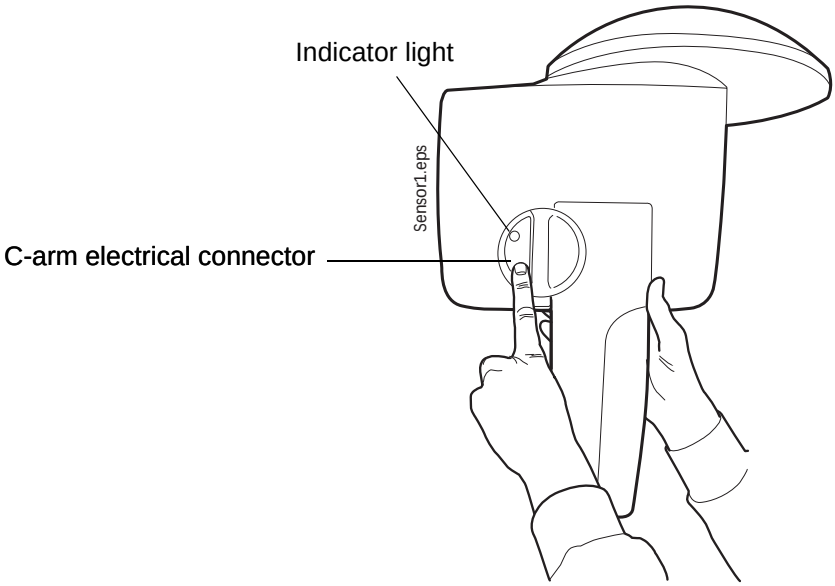
Push in the button of the C-arm electrical connector on the other side to secure the sensor head in position. This will make the electrical connection between the sensor head and C-arm



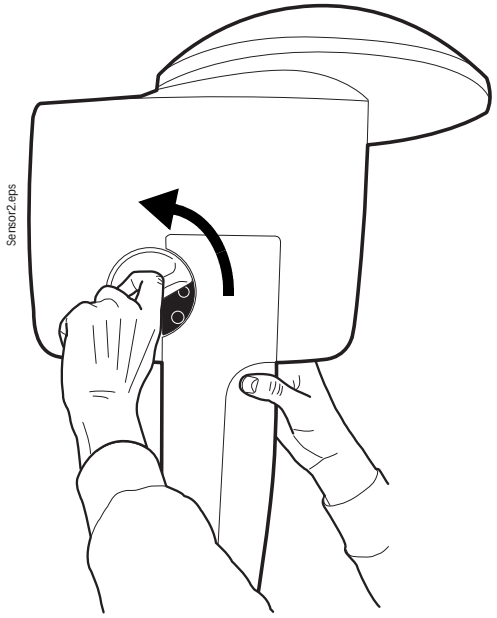
Detaching the sensor head from the C-arm

NOTE ***The indicator light is lit when the Dimax3 sensor is in use. Removing the sensor head when the indicator light is lit might harm the sensor or cause image data loss.***

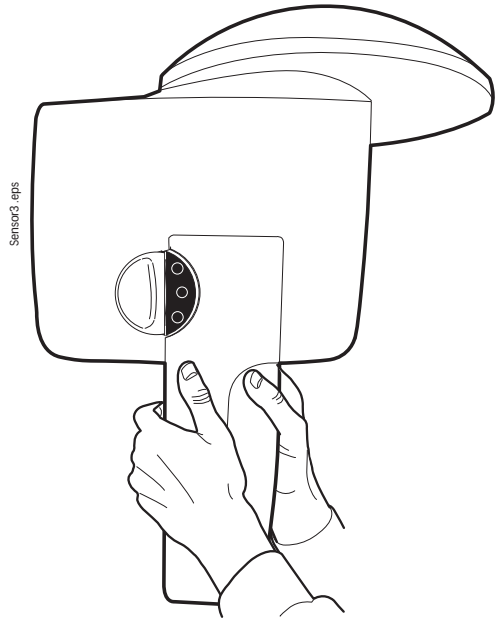
Push in the C-arm electrical connector located on the sensor head quick connector mechanism. This will disconnect the electrical connection between the sensor head and C-arm.



The locking knob can now be turned 180 degrees. This will release the sensor head locking mechanism.



Pull the sensor head carefully out from its position.

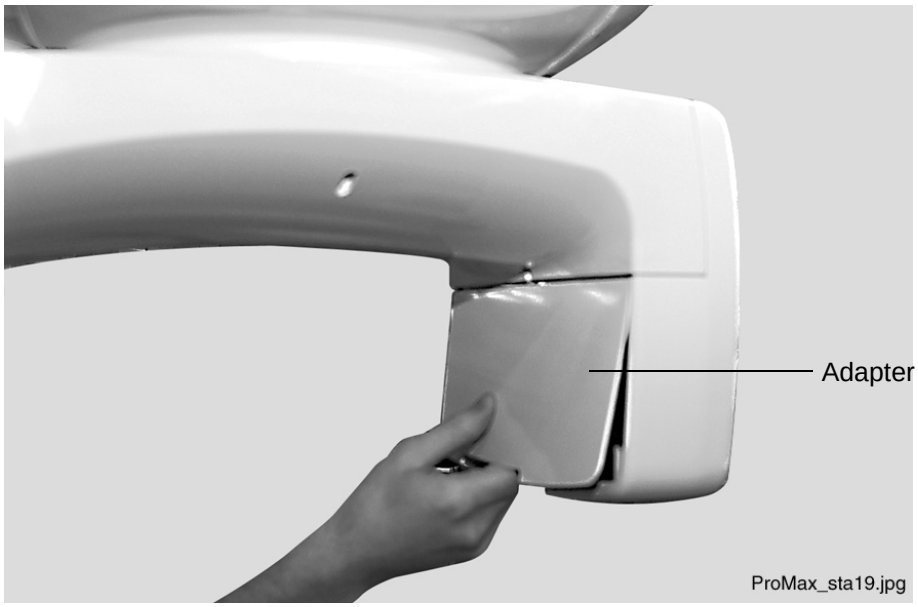


10.7 Attaching and removing the fixed sensor head

NOTE ***To remove the sensor head start from the end of this section, page 50.***

NOTE ***If the unit is equipped with movable sensor head, attach the sensor head to the adapter according to the instructions given in section 10.6 "Attaching and removing the movable sensor head" on page 42.***

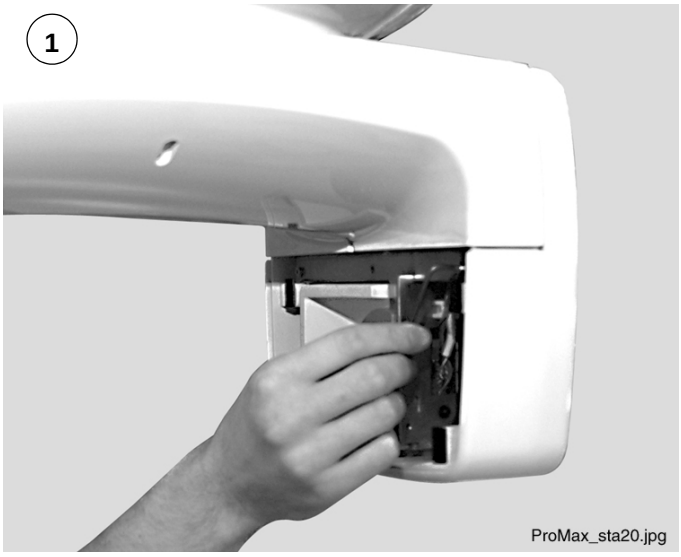
The sensor head adapter front cover is attached to the C-arm with Velcro tapes and can be removed by pulling it from its position.



Remove the C-arm upper covers as follows. Unscrew the eight attachment screws with the 2.5mm Allen key. Slide the tube head cover plate and the receptor cover plate from their positions as shown below.

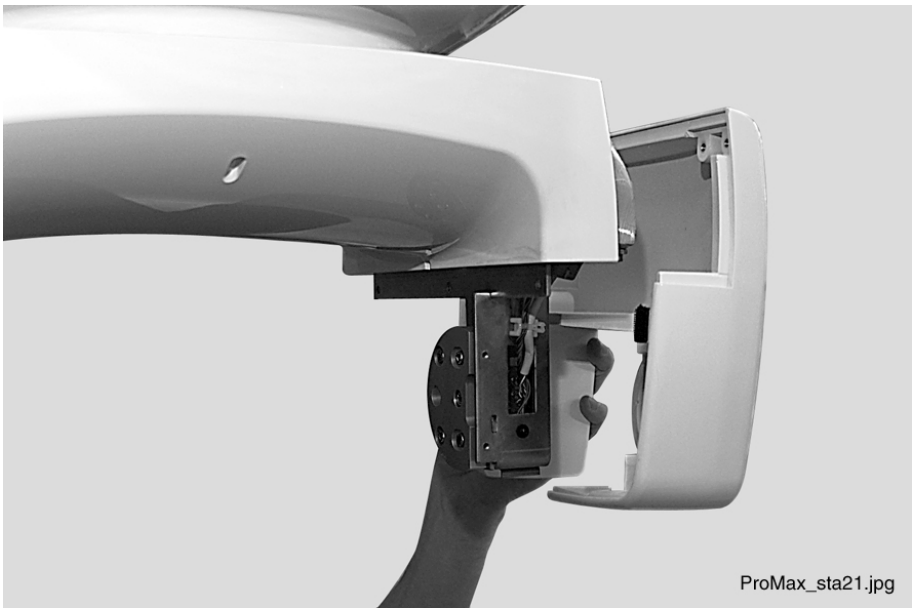
Unscrew the attachment screws of the sensor head adapter back cover with the 2.5mm Allen key: two from the inner side and the two from the top of the cover (2).

1

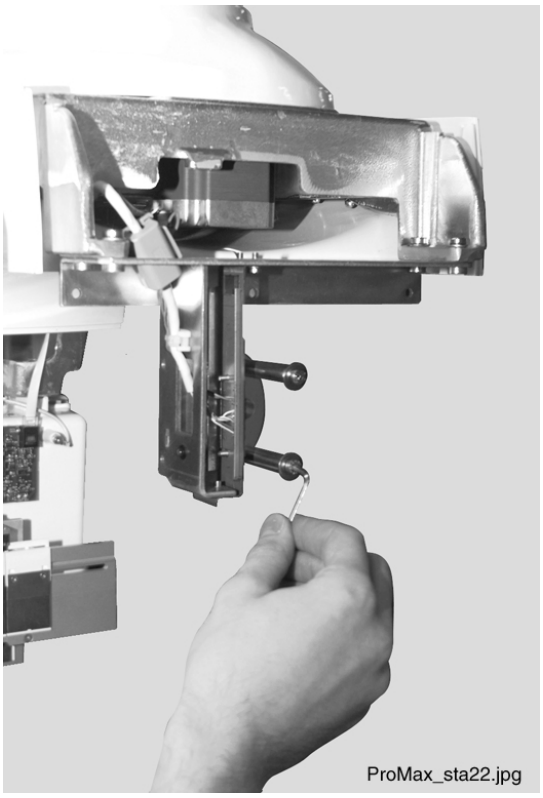


2

Detach the cover from its position.

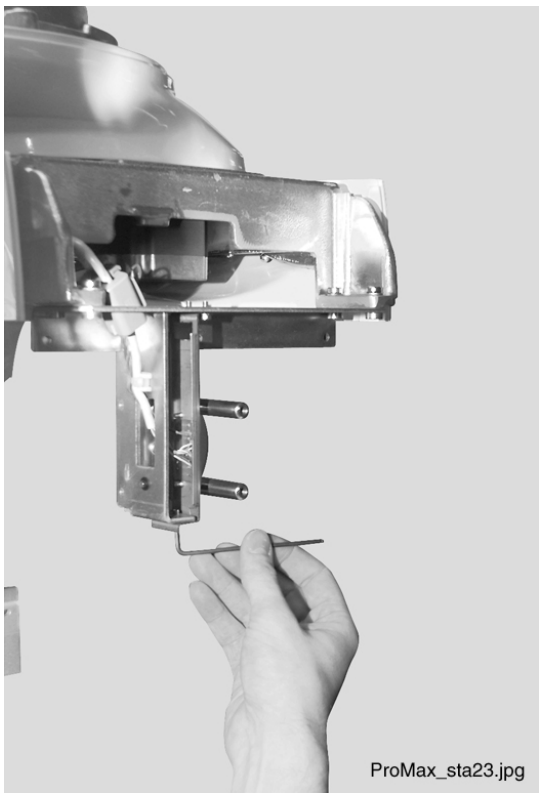


Unscrew the sensor head locking screws from the attachment pins with 3mm Allen key. Remove the screws and washers.

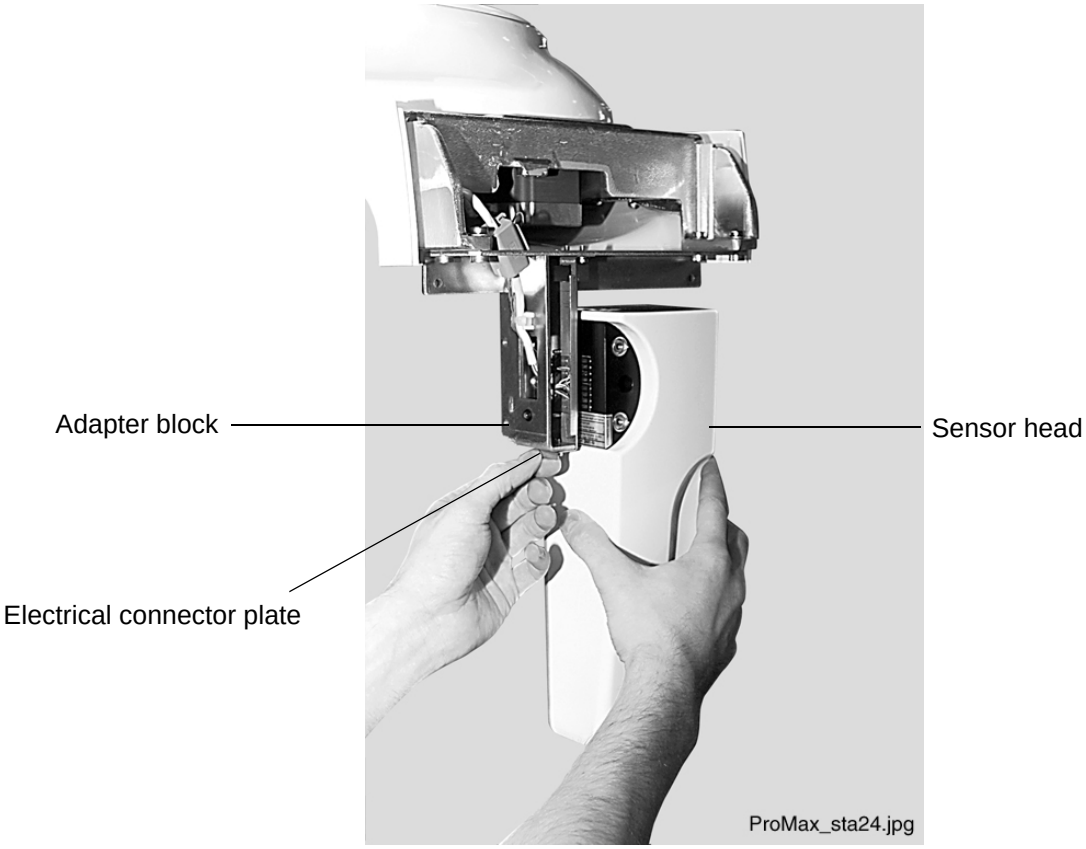


NOTE When checking the alignment, the sensor alignment tool can now be attached to the attachment pins.

Loosen the electrical connector plate screw with the 2.5mm Allen key.

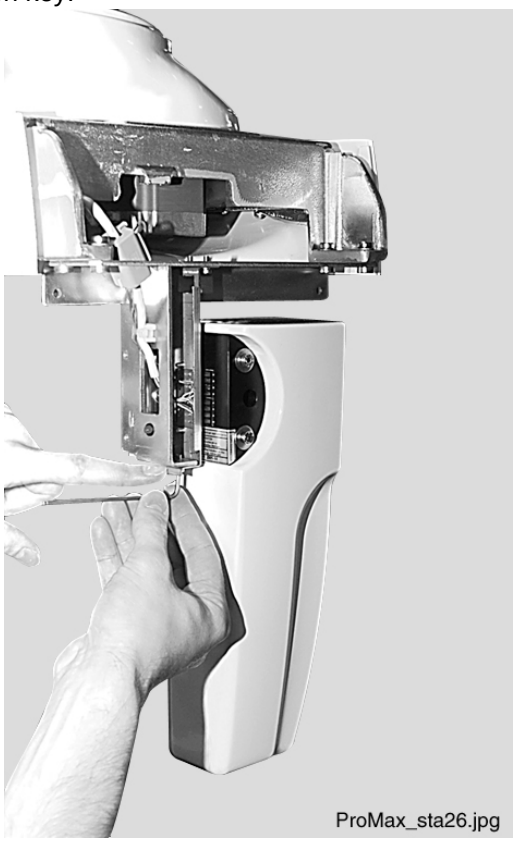


Pull the electrical connector plate towards the adapter block and push the sensor head onto the adapter.

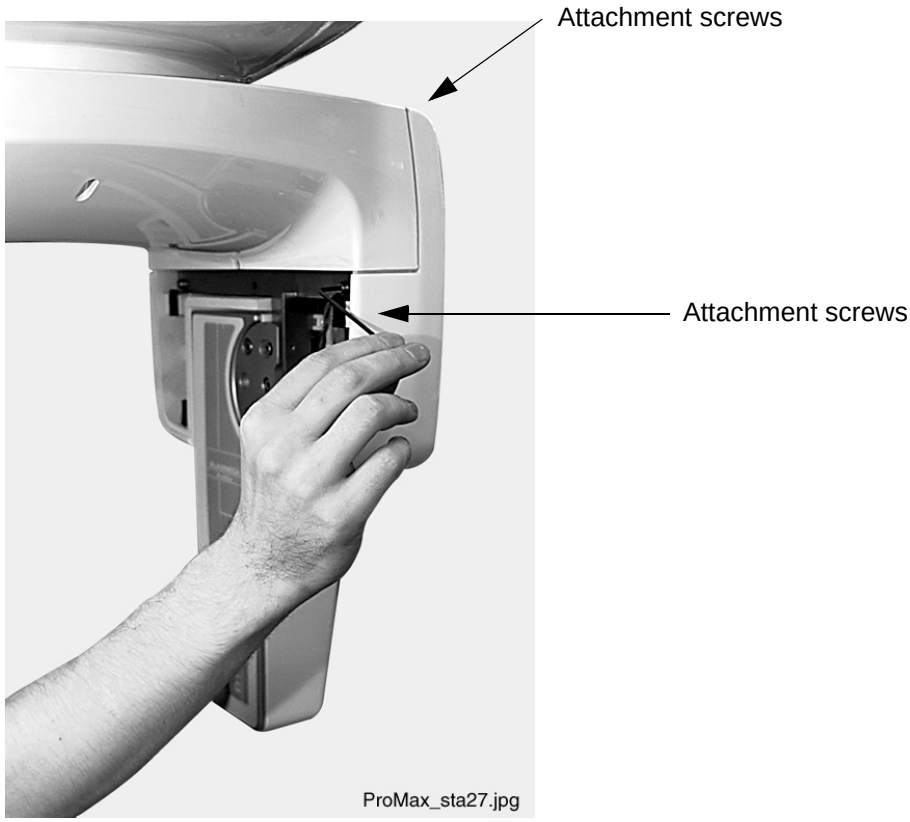


Secure the sensor head with the two washers and attachment screws (use 3 mm Allen key).

Push the electrical connector plate towards the sensor head and tighten the plate screw with the 2.5mm Allen key.



Attach the back cover to its position with the four attachment screws with 2.5mm Allen key.



Press the front cover to its position.

Attach the tube head cover plate and the receptor cover plate.

The sensor head is removed in reverse order.

10.8 Dimaxis software installation

Install the Dimaxis software according to the instructions given in the Dimaxis software installation manual, publication number 10006119.

10.9 Installing the calibration files

Install the calibration files according to the instruction given in the Dimaxis software installation manual (publication number 10006119), Appendix DIDAPI CONFIGURATION.

NOTE ***USE ONLY THE ORIGINAL CALIBRATION FILE CD ROM THAT IS DELIVERED WITH THE SENSOR - YOU CANNOT MAKE THE CALIBRATION WITHOUT THE ORIGINAL FILES. LEAVE THE ORIGINAL CD ROM TO THE OFFICE THE UNIT IS INSTALLED.***

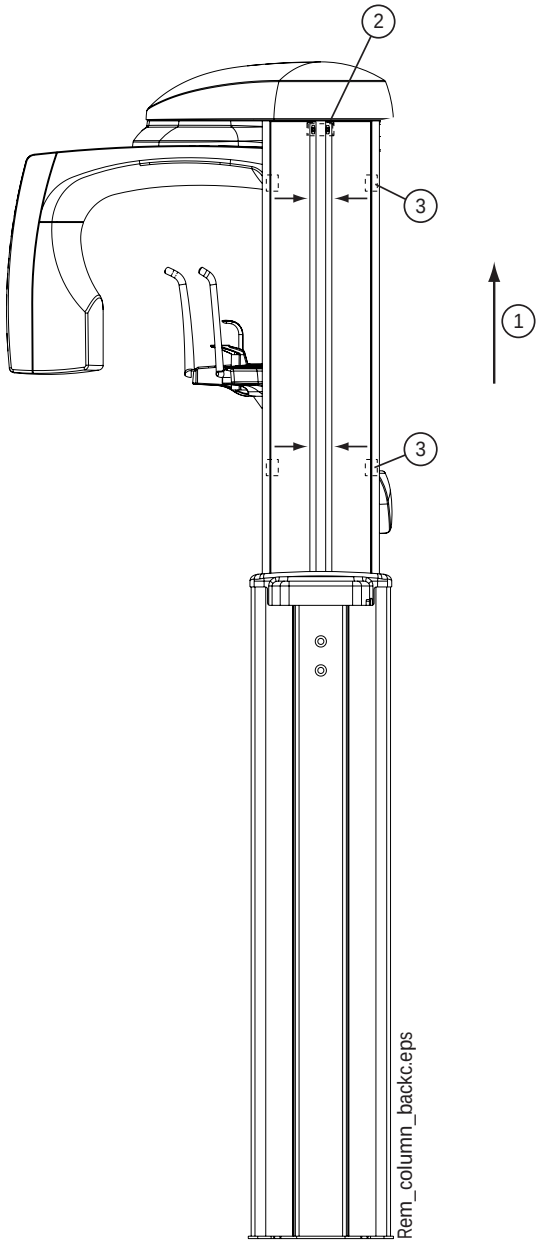
10.10 Calibrating the panoramic sensor head

Calibrate the panoramic sensor head according to the instructions given in ProMax x-ray unit's Technical manual, section 3.8 "Calibrating panoramic sensor head" on page 71.

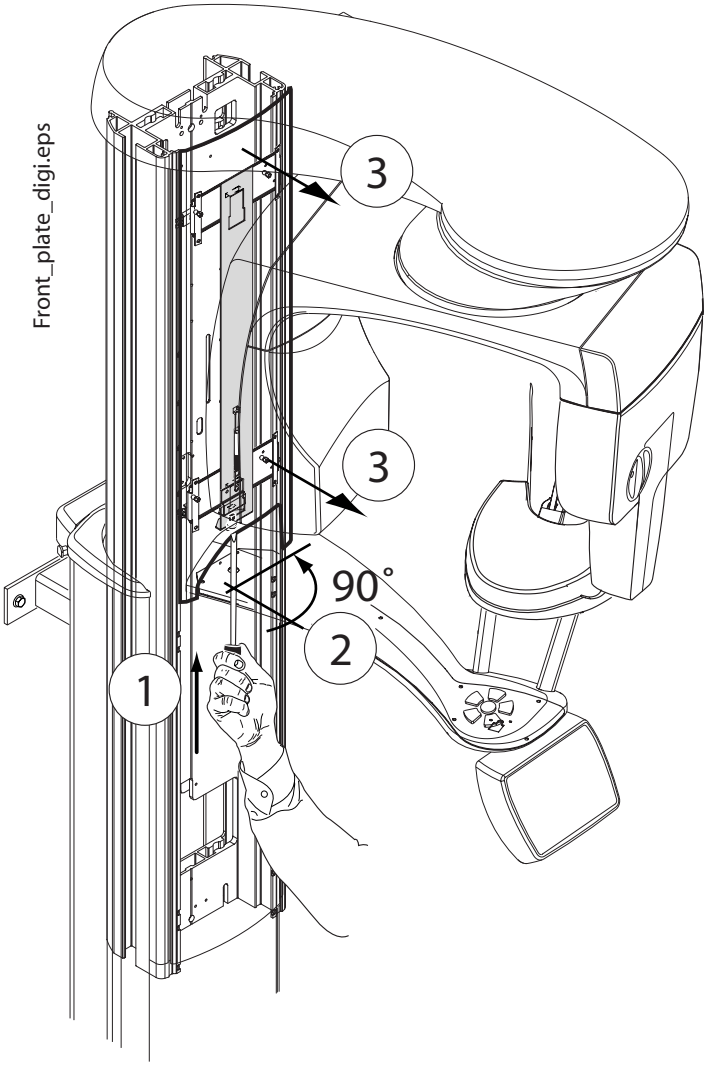
11 INSTALLING THE DIGITAL CEPHALOSTAT

11.1 Attaching the cephalostat to the x-ray

If the two rear cover plates are attached to the unit remove them. Switch the unit on and drive the telescopic column to the uppermost position (1). Switch the unit off. Detach the upper inner corner of the cover plate by carefully pulling it outwards (2). Detach the cover plate by pushing the cover plate inwards (see small arrows on the figure below) (3).

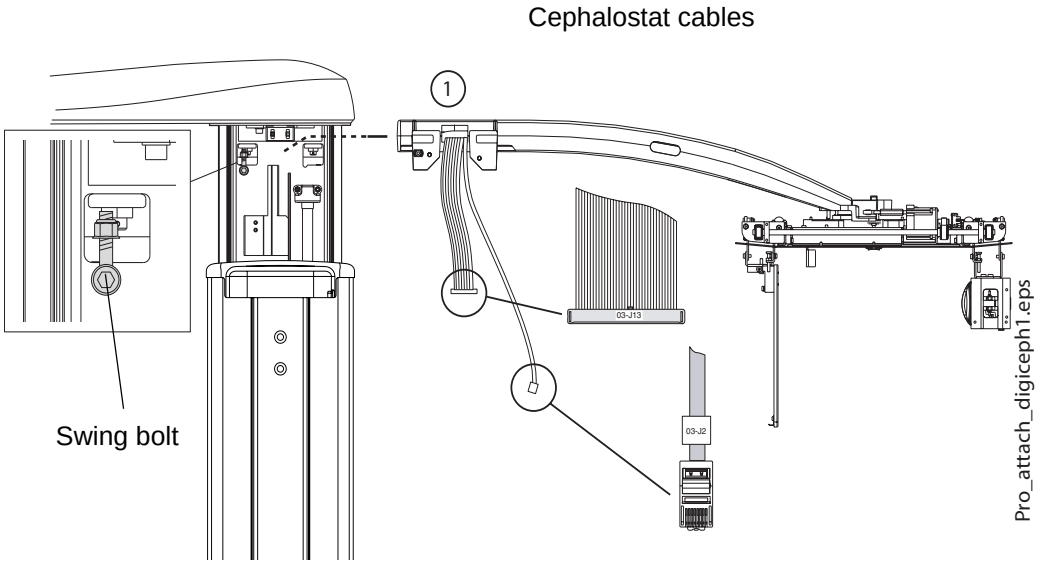


Switch the unit on, lower the column to the appropriate working height and switch the unit off. Open the cabinet door OR pull the telescopic column lower front panel from its position. Detach the telescopic column front panel. In case it is locked to its position, push the locking bolt located behind the front panel (1) and turn the bolt 90° counter clockwise (2). Detach first the lower part of the panel from the column and then pull the panel out from its position (3).

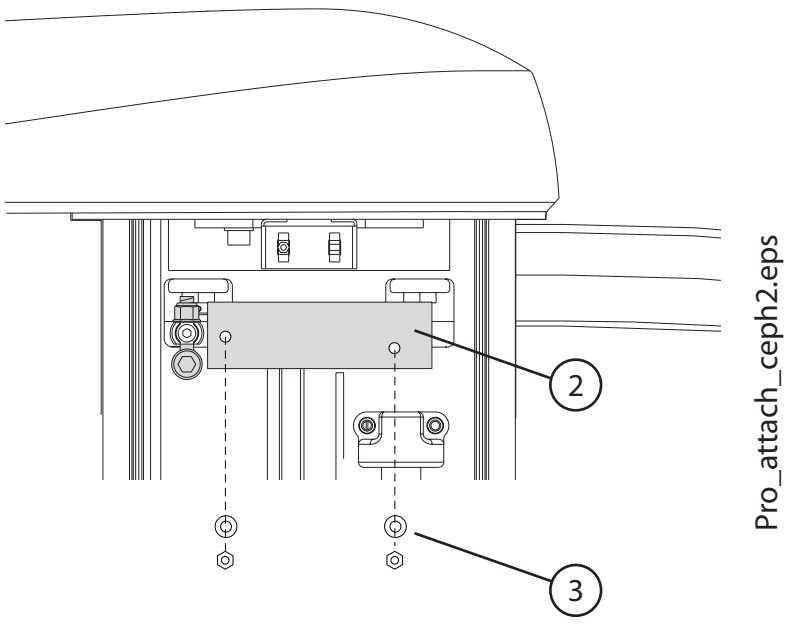


The nut of the swing bolt is adjusted to the correct height at the factory. Do not move the nut.

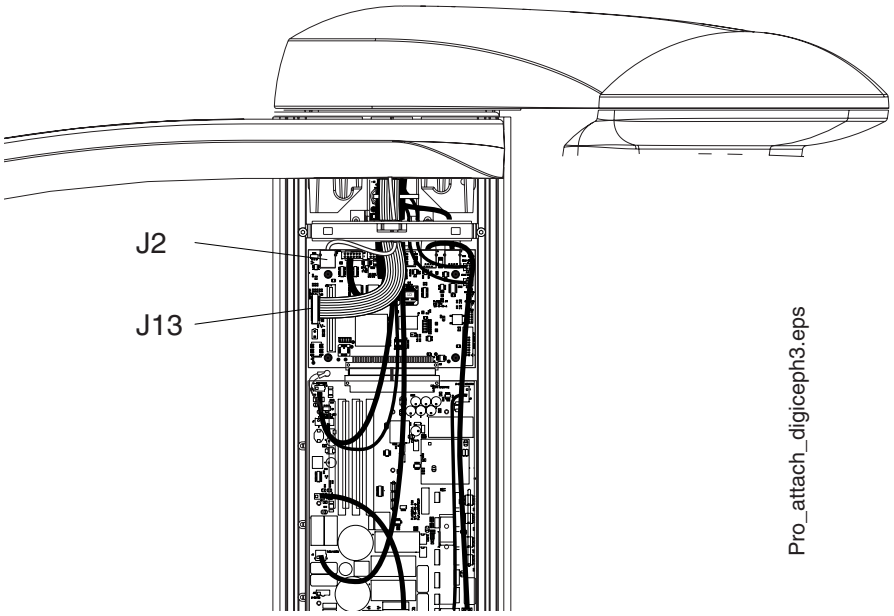
Lift the cephalostat to the front of the telescopic column so that the attachment screws go through the openings on the column. Be careful not to damage the cephalostat cables (1).



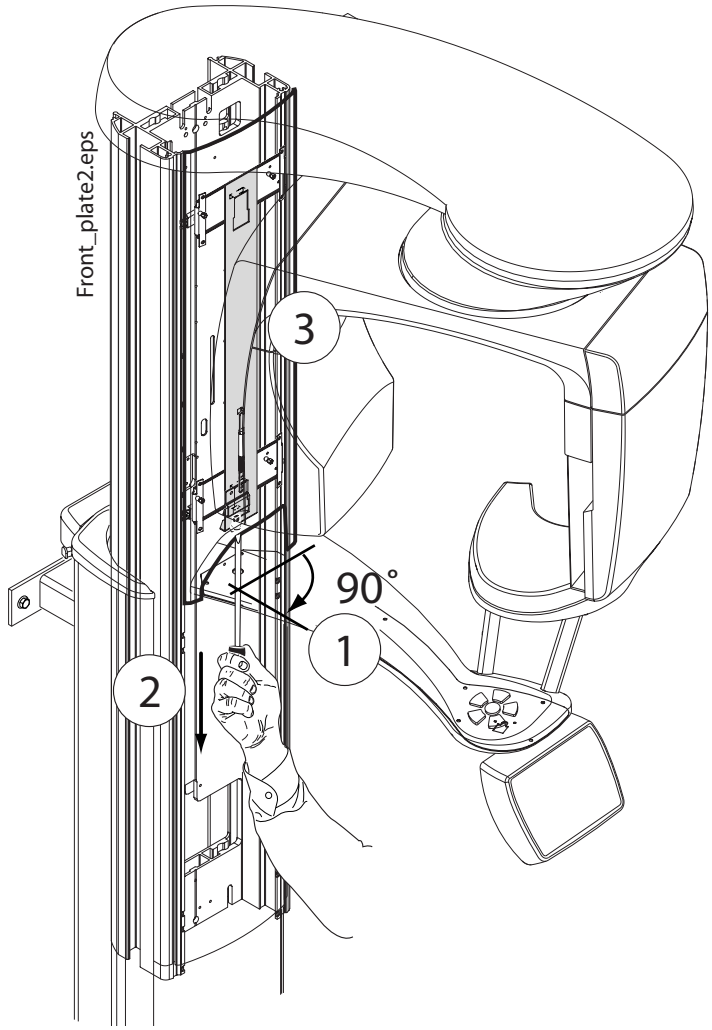
Place the attachment plate to its position (2) and attach it with the two washers and nuts (3). Tighten the attachment nuts firmly.



Connect the cephalostat cable to the connector J13 and the cephalostat data cable to the connector J2 on the CPU PCB.



Attach the removed covers to the unit. Check that the front cover of the telescopic column is locked to its position, i.e. the panel locking bolt is in lower position. If it is not, turn the locking bolt located behind the front panel 90° clockwise.



11.2 Attaching the sensor head adapter to the cephalostat

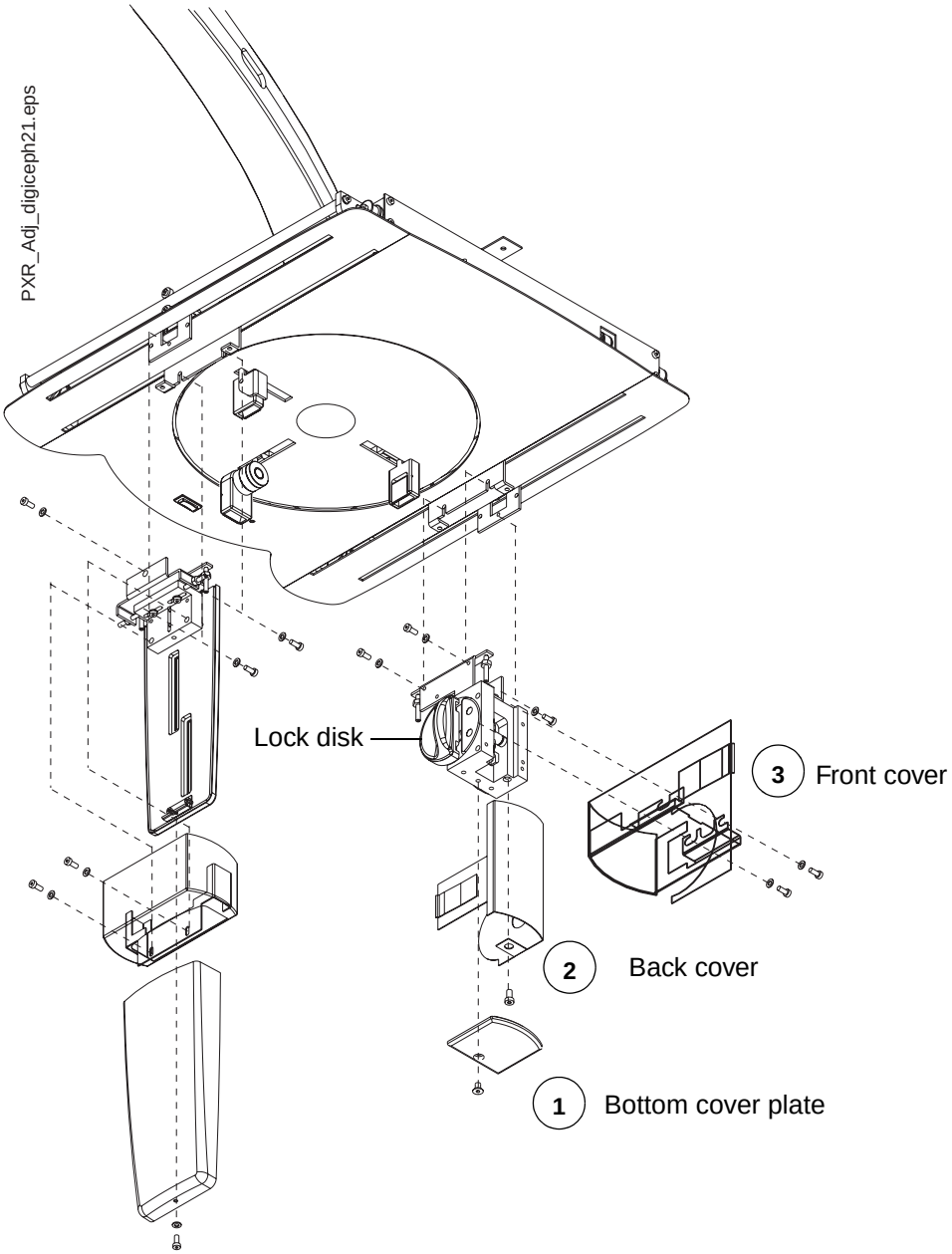
Cephalostat with movable sensor head - attaching the sensor head adapter

NOTE ***If the cephalostat is equipped with fixed sensor head, attach the sensor head adapter to the cephalostat according to the instructions given in section "Cephalostat with fixed sensor head - attaching the sensor head adapter" on page 57.***

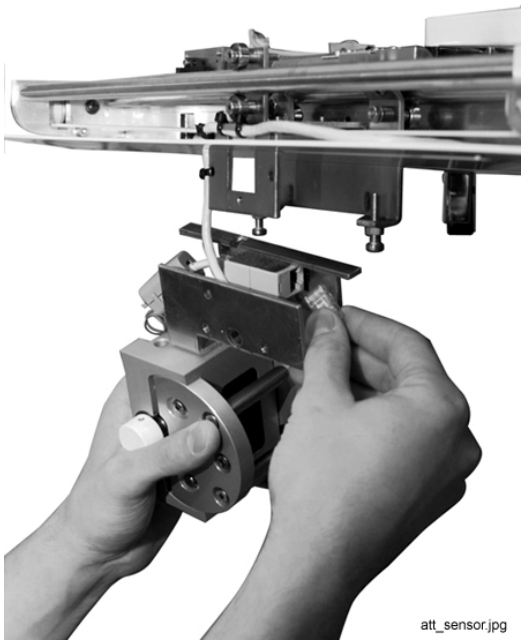
Before attaching the sensor head adapter remove its covers: Unscrew the bottom cover plate attachment screw with the 4mm Allen key and remove the cover plate (1).

Unscrew the attachment screw of the quick connector mechanism back cover with the 4mm Allen key and slide the cover away from its position (2).

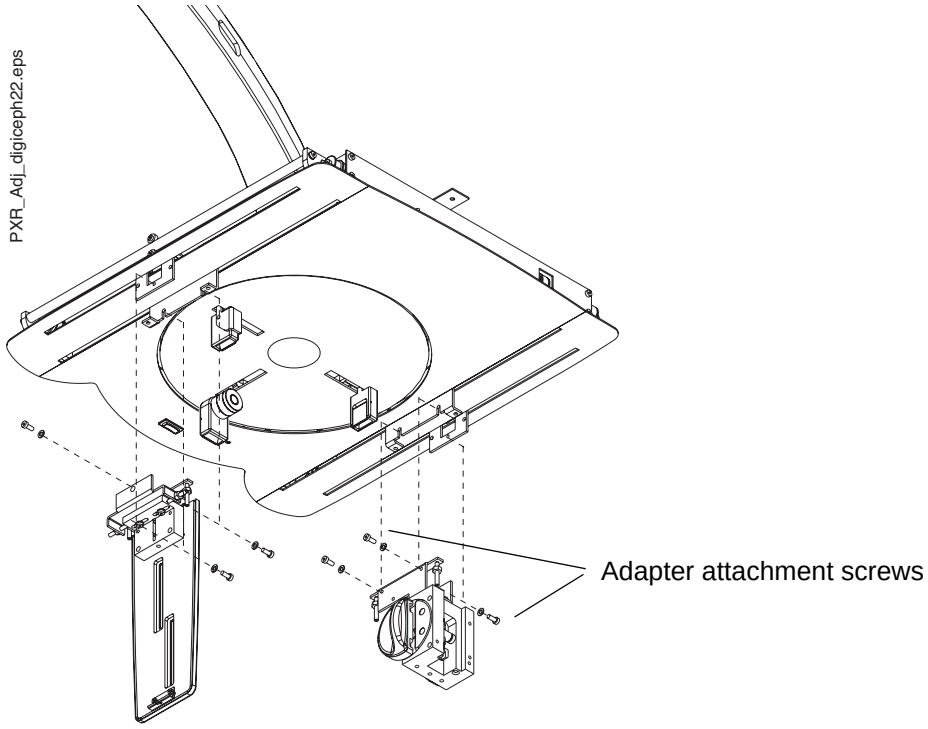
Turn the lock disc approx. 90° counter clockwise. Loosen the attachment screws of the front cover with the 3mm Allen key and slide the cover away from its position (3).



Attach the cephalostat data cable to the connector located on the sensor head adapter. Note that the connector is attached to the adapter with velcro tape and can be temporarily detached, if needed.



Attach the sensor head adapter tentatively to the cephalostat with three attachment screws with 3mm Allen key. Do not tighten the screws yet, the position of the adapter must be checked first.



Before tightening the adapter attachment screws, perform the adjustment of the sensor head adapter according to the instructions given in ProMax x-ray unit's Technical manual, section 2.5 "Adjusting the sensor head connector and sensor head positions" on page 38.

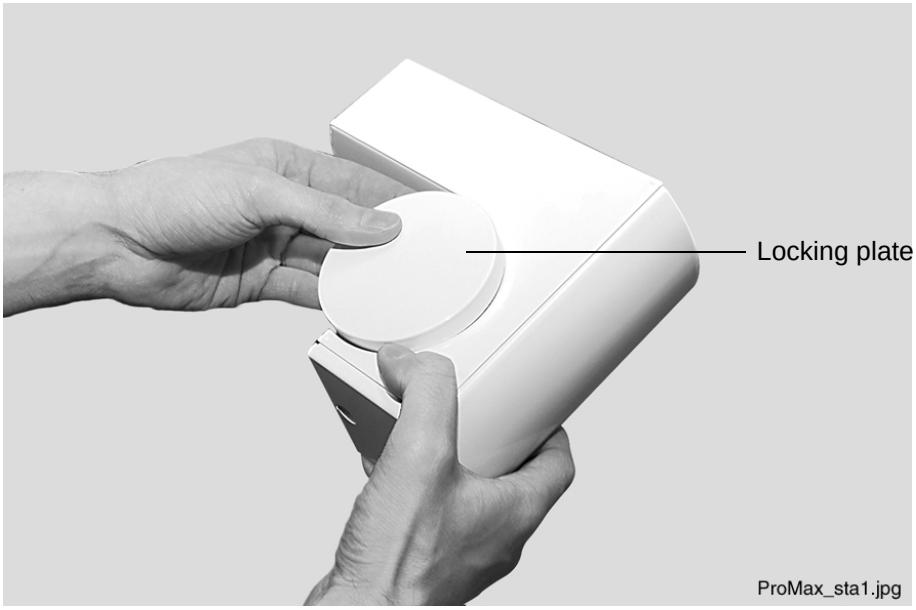
NOTE ***The cephalostat beam alignment must be checked before attaching the second primary collimator to the cephalostat. Check the beam alignment according to the instructions given in ProMax x-ray technical manual, section 2 "DIGITAL CEPH - ADJUSTMENTS AND CALIBRATIONS" on page 33.***

Cephalostat with fixed sensor head - attaching the sensor head adapter

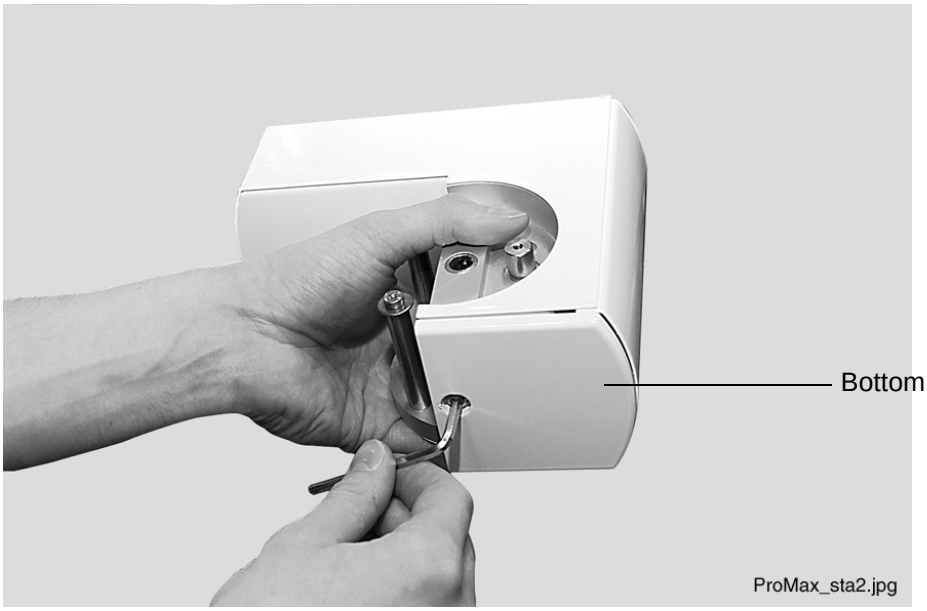
NOTE ***If the cephalostat is equipped with movable sensor head, attach the sensor head adapter to the cephalostat according to the instructions given in section "Cephalostat with movable sensor head - attaching the sensor head adapter" on page 55.***

Remove first the sensor head adapter covers:

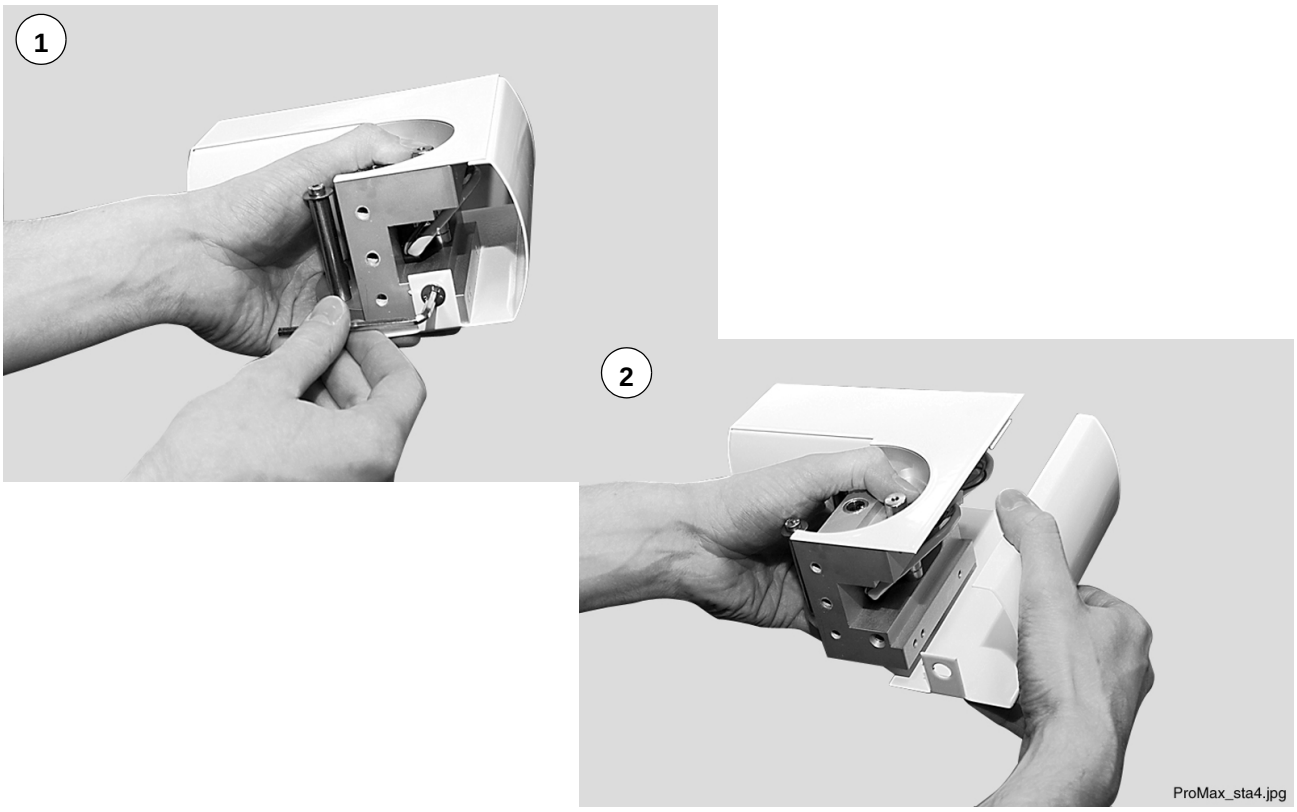
Remove the locking plate.



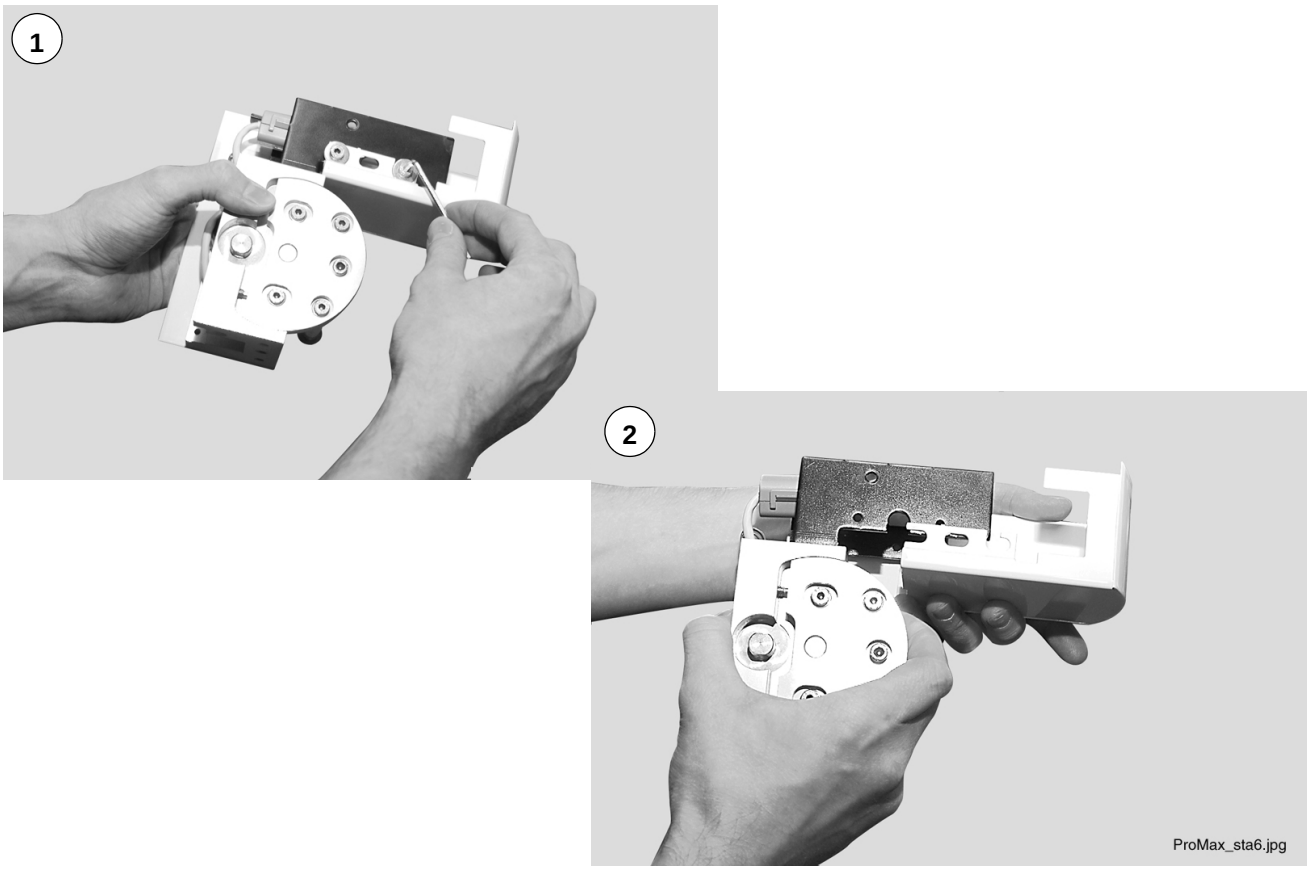
Unscrew the bottom cover plate attachment screw with the 4mm Allen key and remove the cover plate.



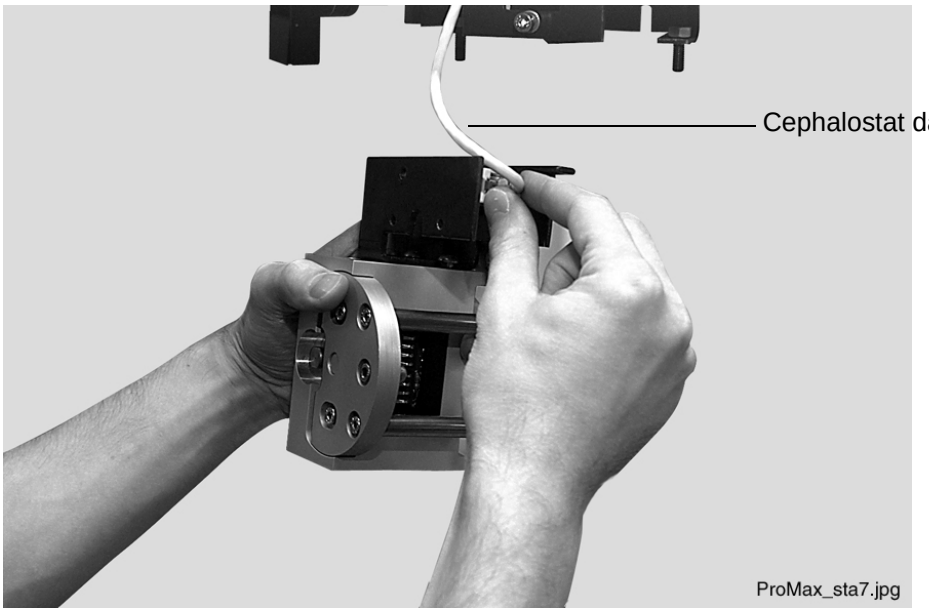
Unscrew the attachment screw of the back cover with the 4mm Allen key (1) and slide the cover from its position (2).



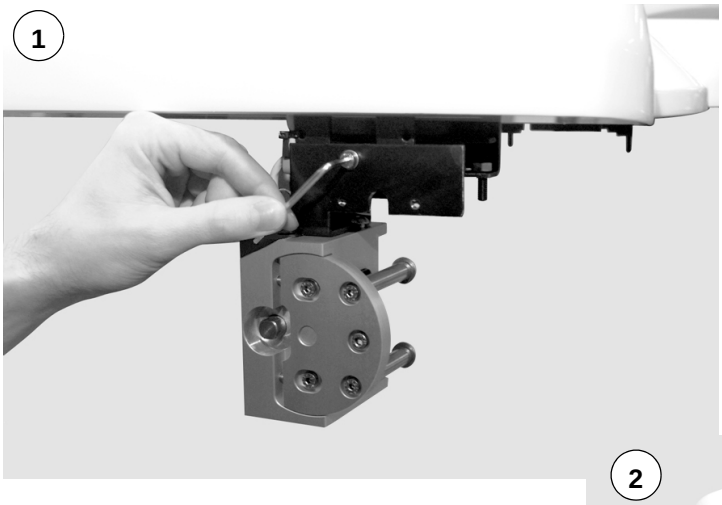
Unscrew the two front cover attachment screws with the 3mm Allen key (1) and remove the cover (2).

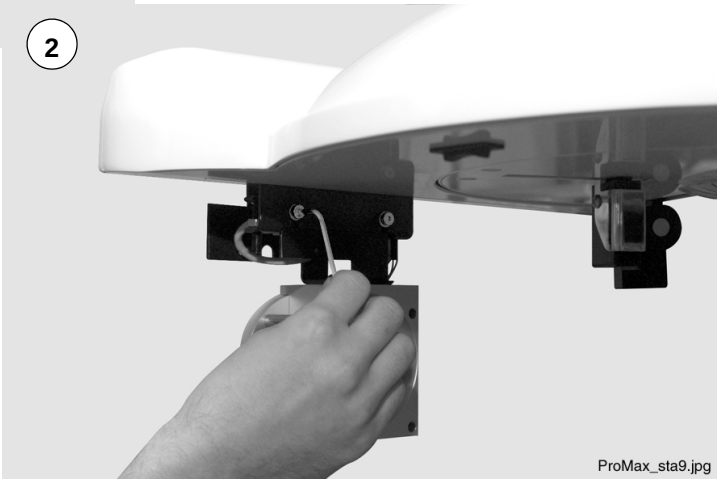


Attach the cephalostat data cable to the connector located on the sensor head adapter.



Unscrew one adapter attachment screw from the attachment plate on the cephalostat (1) and two attachment screws from the sensor head adapter with the 3mm Allen key (2). Attach the sensor head adapter to the cephalostat with these three attachment screws.





Before tightening the adapter attachment screws, perform the adjustment of the sensor head adapter according to the instructions given in ProMax x-ray unit's Technical manual, section 2.5 "Adjusting the sensor head connector and sensor head positions" on page 38.

NOTE ***The cephalostat beam alignment must be checked before attaching the second primary collimator to the cephalostat. Check the beam alignment according to the instructions given in ProMax x-ray technical manual, section 2 "DIGITAL CEPH - ADJUSTMENTS AND CALIBRATIONS" on page 33.***

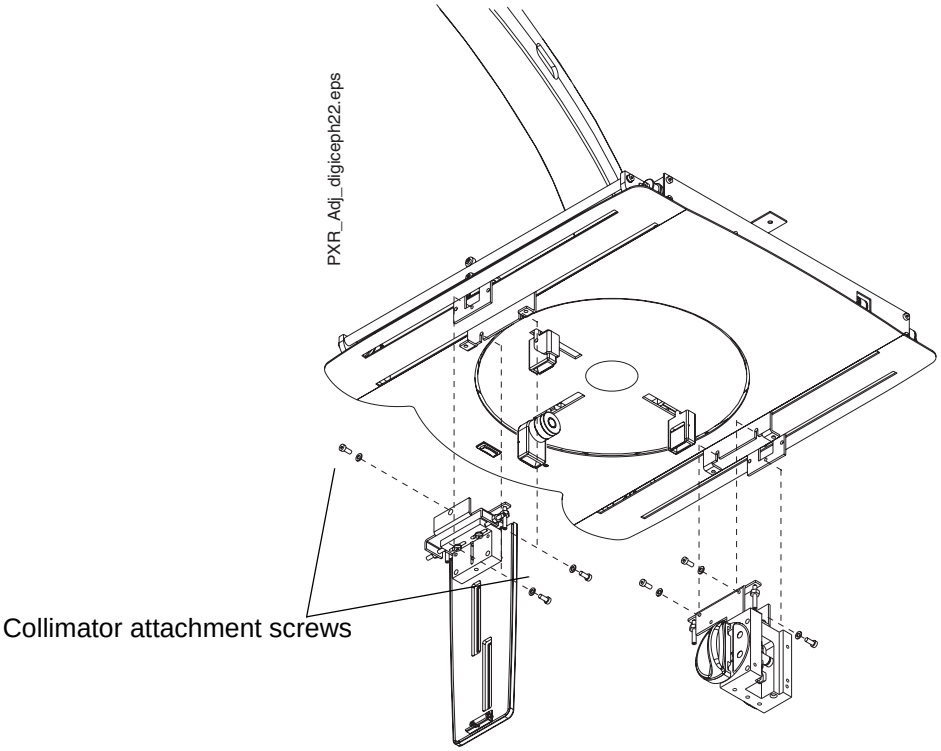
The sensor head is attached to the adapter after the cephalostat alignment has been checked. The attachment of the fixed sensor head is described in section "Attaching and removing the fixed sensor head" on page 66.

11.3 Attaching the second primary collimator

NOTE ***The cephalostat beam alignment must be checked before attaching the second primary collimator to the cephalostat. Before the second primary collimator is attached, check the beam alignment according to the instructions given in ProMax x-ray technical manual, section 2 "DIGITAL CEPH - ADJUSTMENTS AND CALIBRATIONS" on page 33.***

Before attaching the second primary collimator remove its covers: Unscrew the collimator cover attachment screw using the 2mm Allen key and slide the collimator cover from its position. Unscrew the two collimator cover box attachment screws using the 3mm Allen key and slide the collimator cover box from its position (see figure on next page).

Attach the collimator plate tentatively to the cephalostat with three attachment screws by using 3mm Allen key. Do not tighten the screws yet, the position of the collimator plate must be checked first.

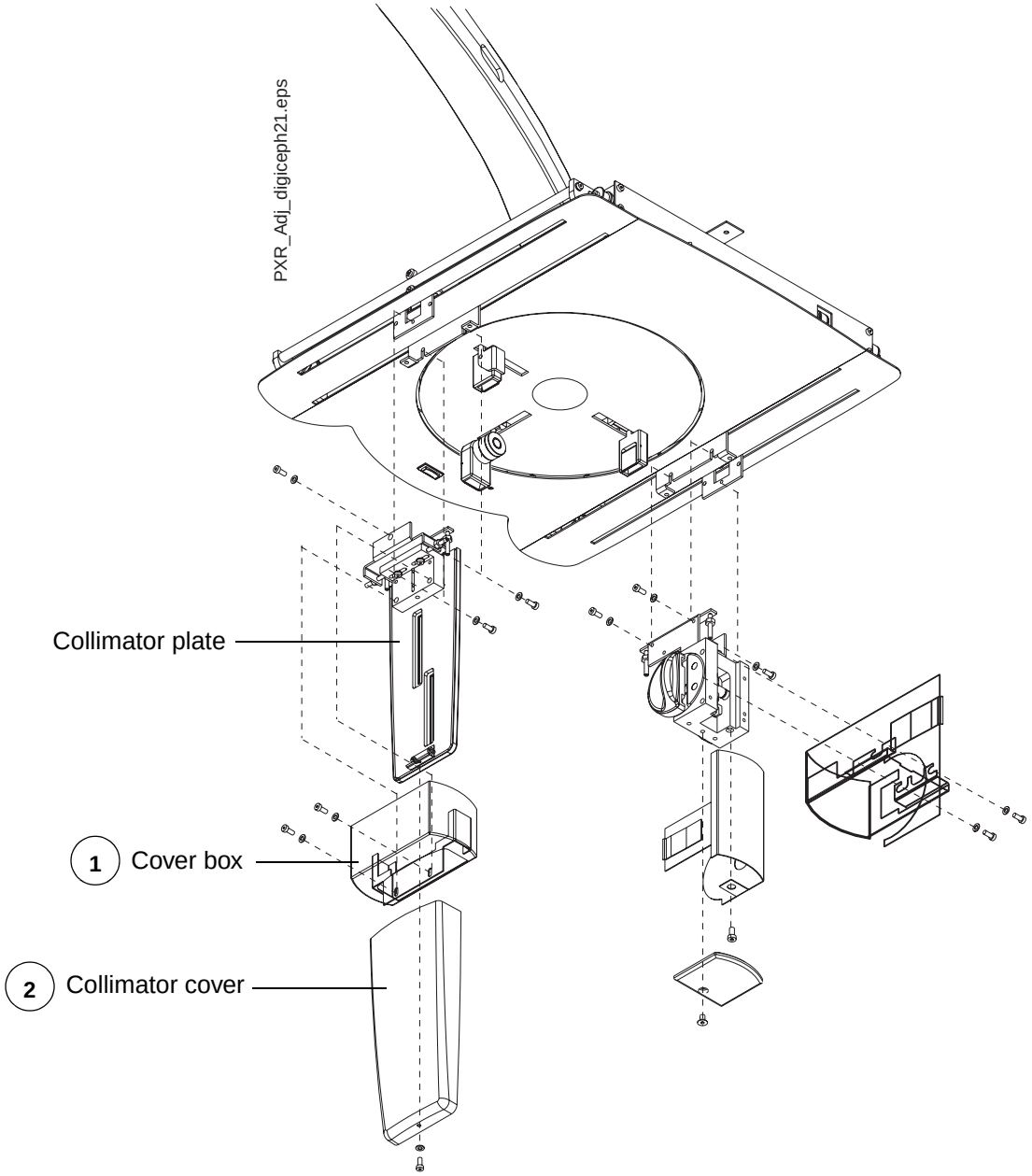


Before tightening the collimator attachment screws, check and adjust the position of the second primary collimator according to the instructions given in ProMax x-ray unit's Technical manual, sections 2.12 "Checking the second primary collimator position" on page 58 and 2.13 "Adjusting the second primary collimator position" on page 61.

Tighten the attachment screws and attach the second primary collimator covers as follows.

Slide the collimator cover box to its position and attach it with the two attachment screws by using the 4mm Allen key (1).

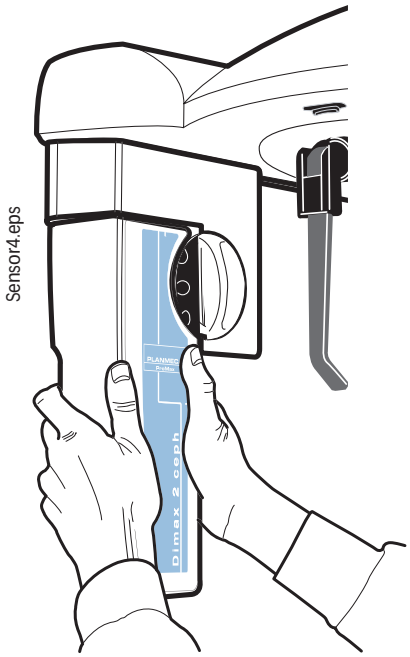
Slide the collimator cover to its position and attach it with the attachment screw by using the 2mm Allen key (2).



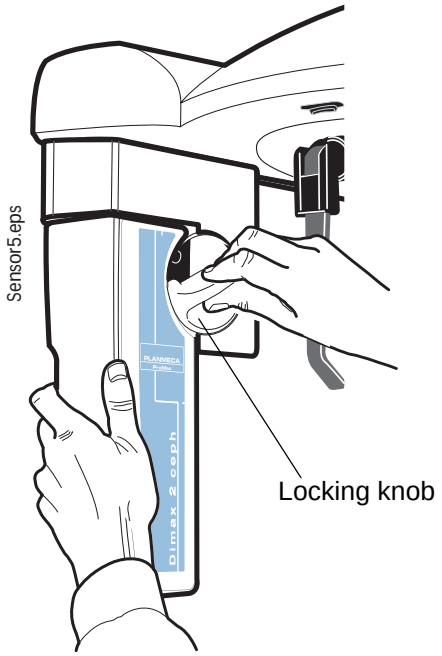
11.4 Attaching and removing the sensor head

Cephalostat with movable sensor head - attaching the sensor head

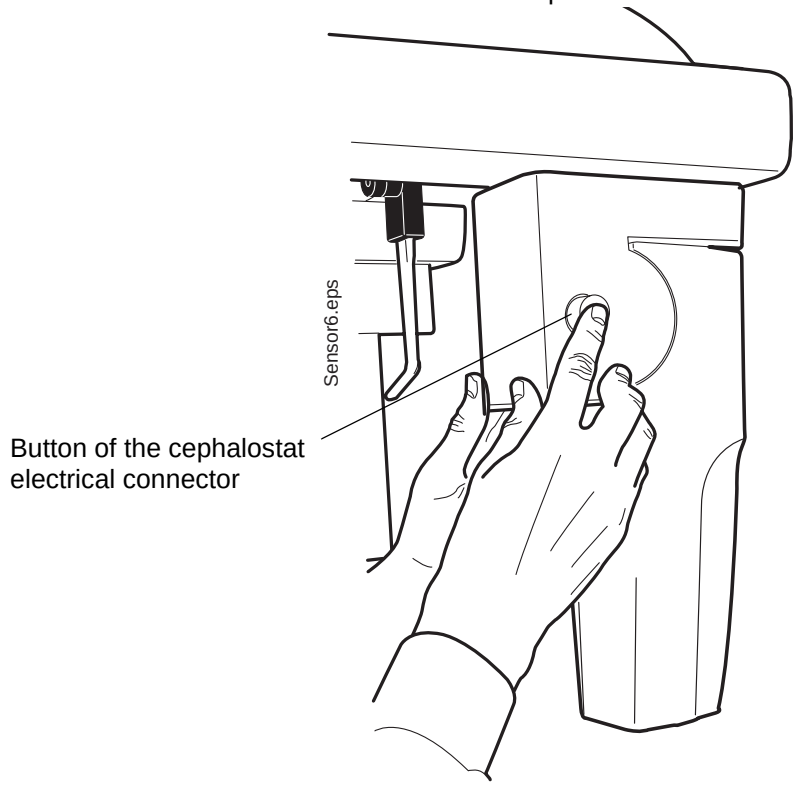
Push the sensor head onto the adapter on the cephalostat.



Turn the locking knob over the fastening mechanism. This will secure the sensor head in position.



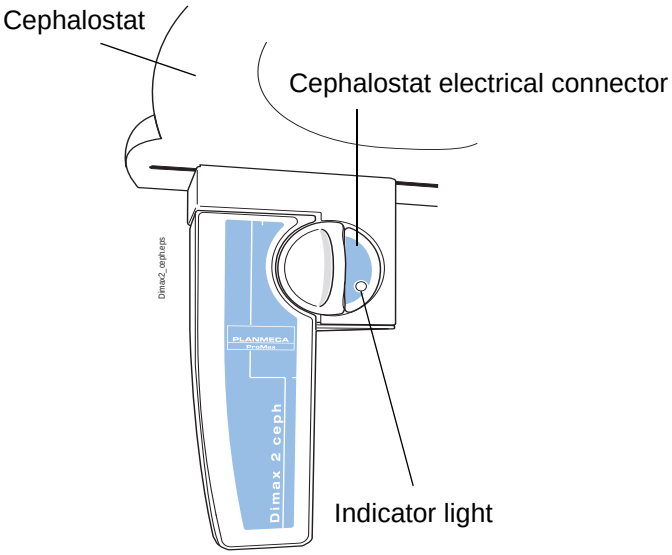
Push in the button of the cephalostat electrical connector behind the sensor head quick connector mechanism. This will secure the sensor head in position and make the electrical connection between the sensor head and cephalostat.



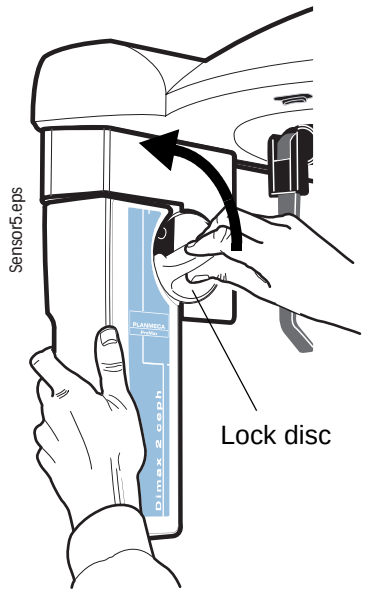
Cephalostat with movable sensor head - removing the sensor head

NOTE ***The indicator light is lit when the Dimax3 sensor is in use. Removing the sensor head when the indicator light is lit might harm the sensor or cause image data loss.***

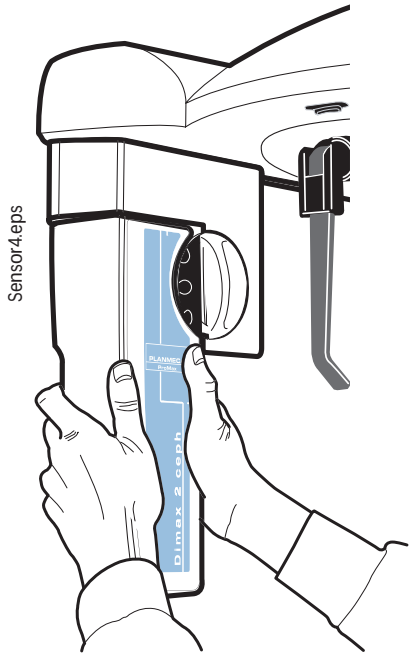
Push in the cephalostat electrical connector. This will disconnect the electrical connection between the sensor head and cephalostat.



The locking knob can now be turned 180 degrees. This will release the sensor head locking mechanism.

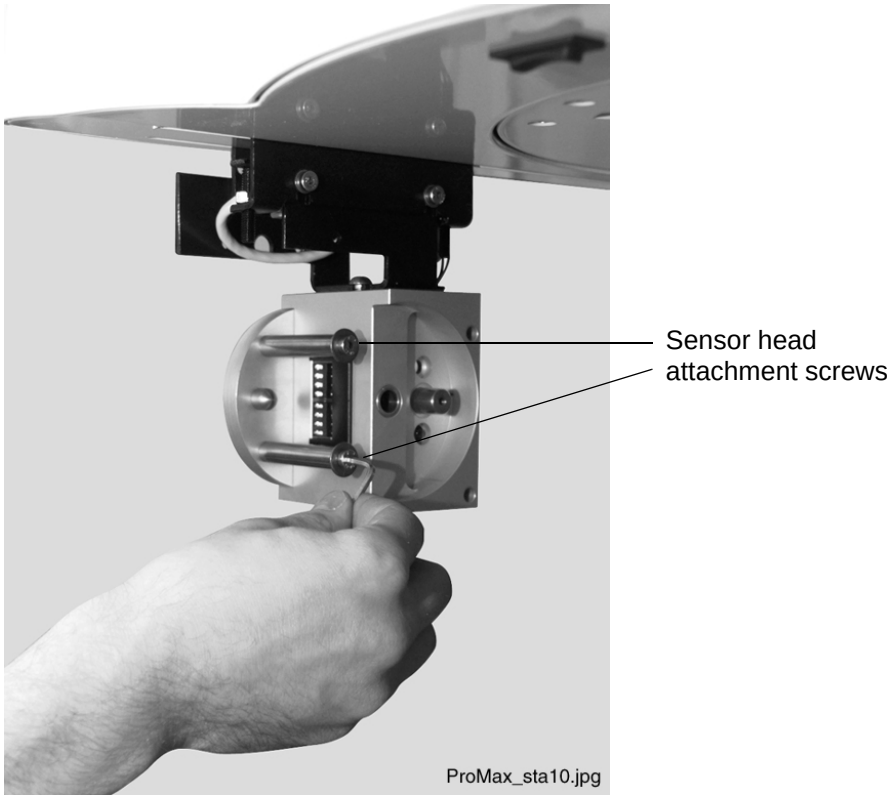


You can now pull the sensor head carefully out.

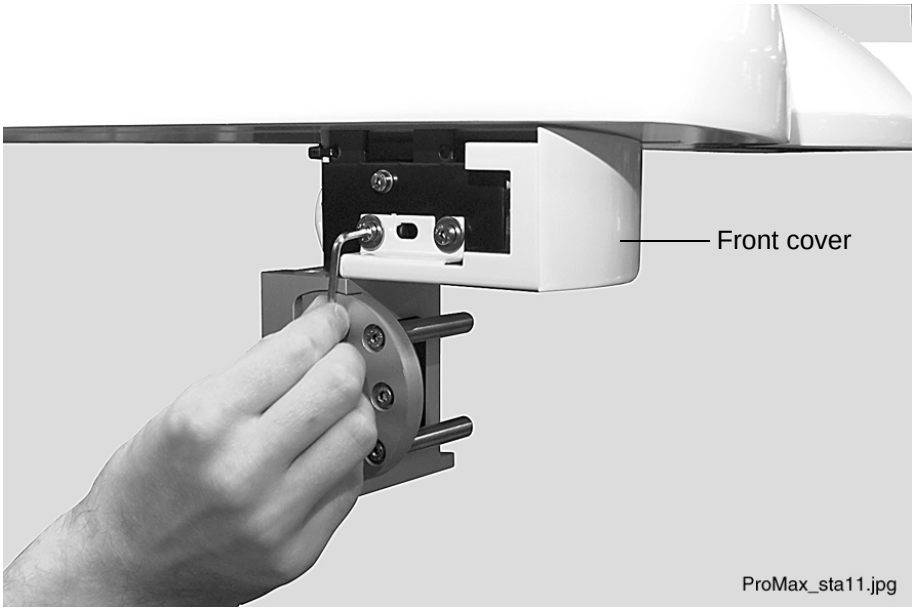


Attaching and removing the fixed sensor head

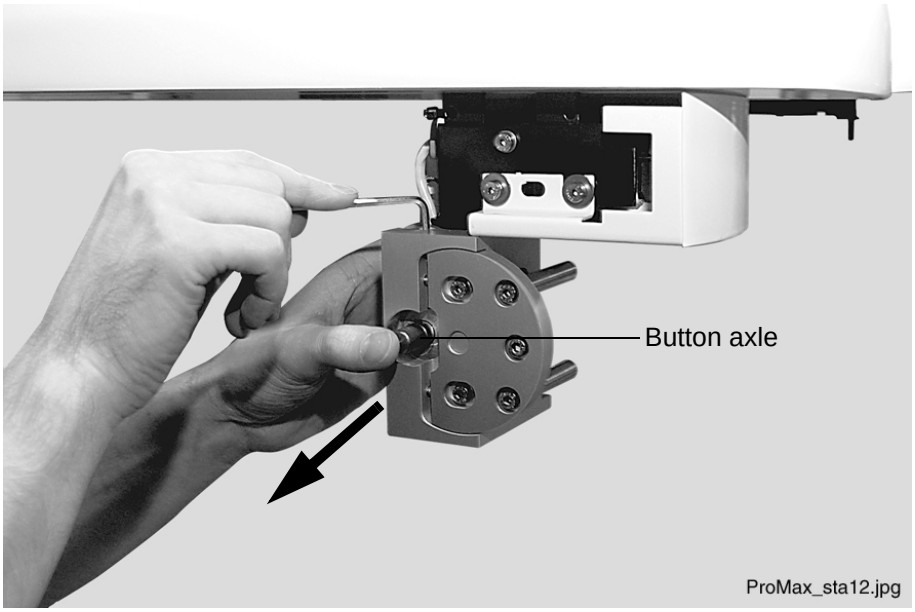
Unscrew the sensor head locking screws from the attachment pins with 3mm Allen key. Remove the screws and washers.



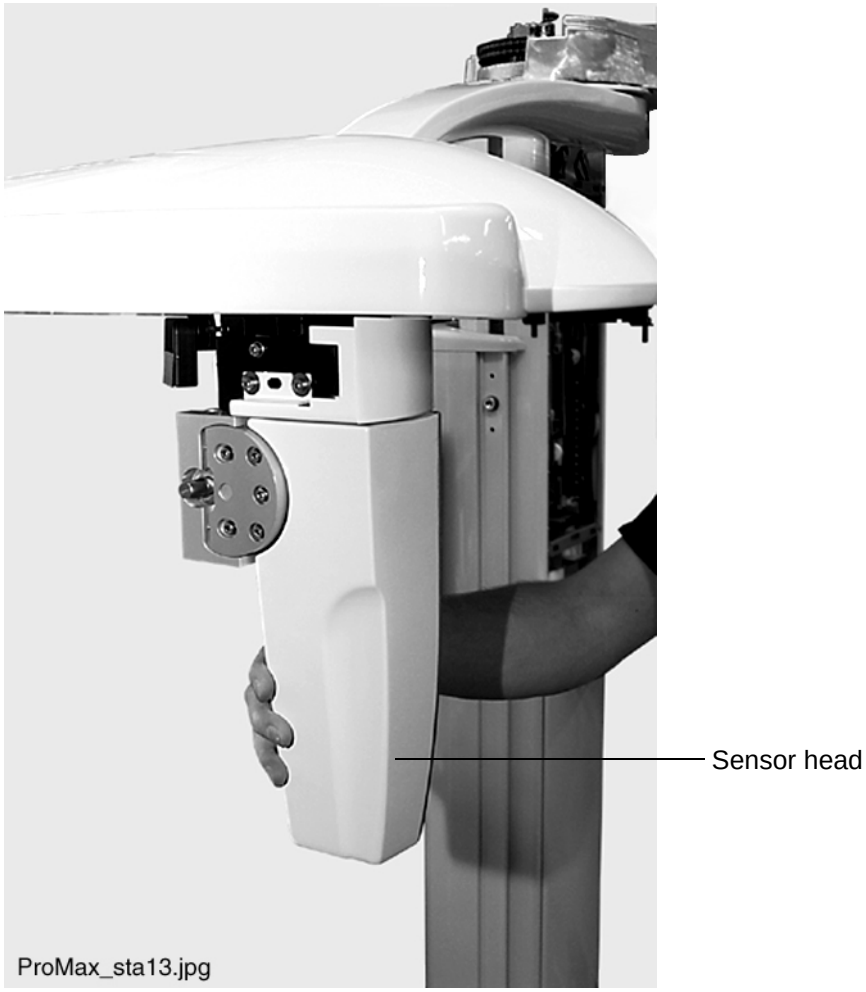
Slide the front cover to its position and attach the two attachment screws with 3mm Allen key.



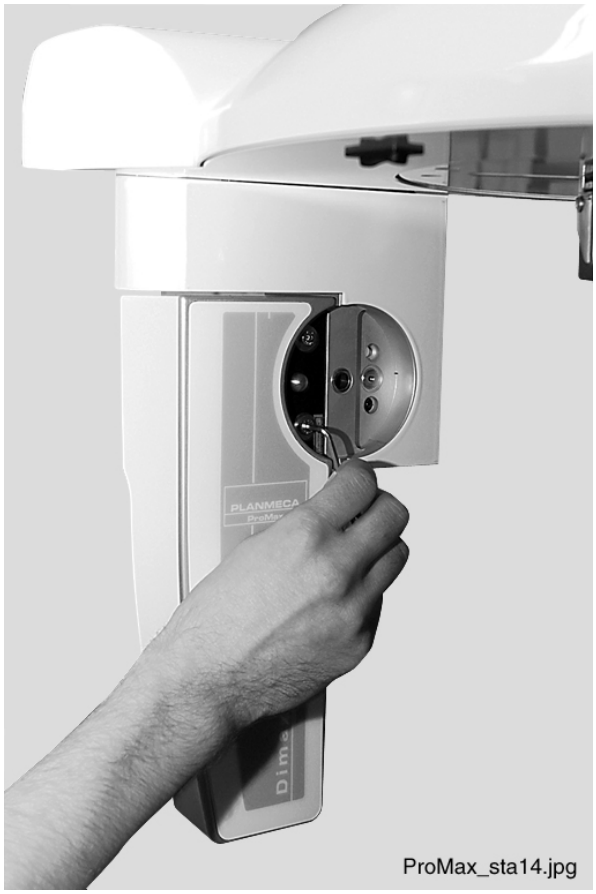
Loosen the button axle attachment screw with the 3mm Allen key and push the button axle out.



Push the sensor head to its adapter.



Secure the sensor head with the two washers and attachment screws (use 3mm Allen key).



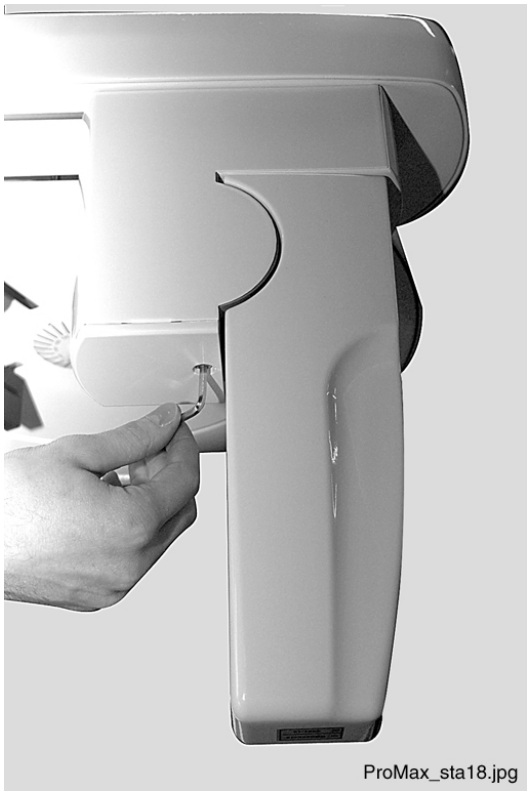
Place the locking plate to the adapter (1). Push the button axle towards the locking plate and tighten the axle attachment screw with 3mm Allen key (2).

1

2

Slide the back cover to its position and attach the attachment screw with 4mm Allen key.

Attach the bottom cover plate to its position.



The sensor head is removed from its position in reverse order.

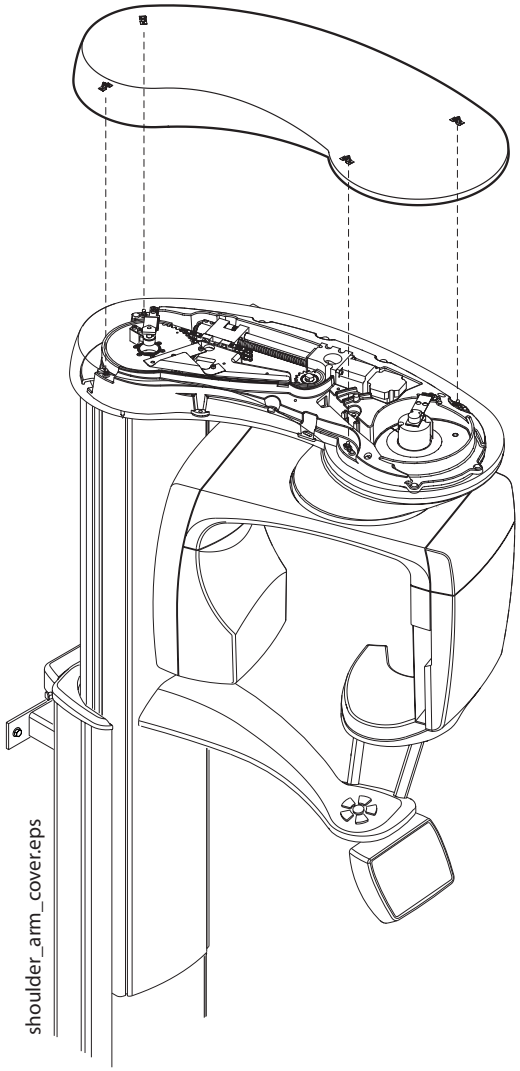
11.5 Calibrating the cephalostat sensor head

Calibrate the cephalostat sensor head according to the instructions given in ProMax x-ray unit's Technical manual, section 2.15 "Calibrating the cephalostat sensor head" on page 69.

12 ATTACHING THE COVERS

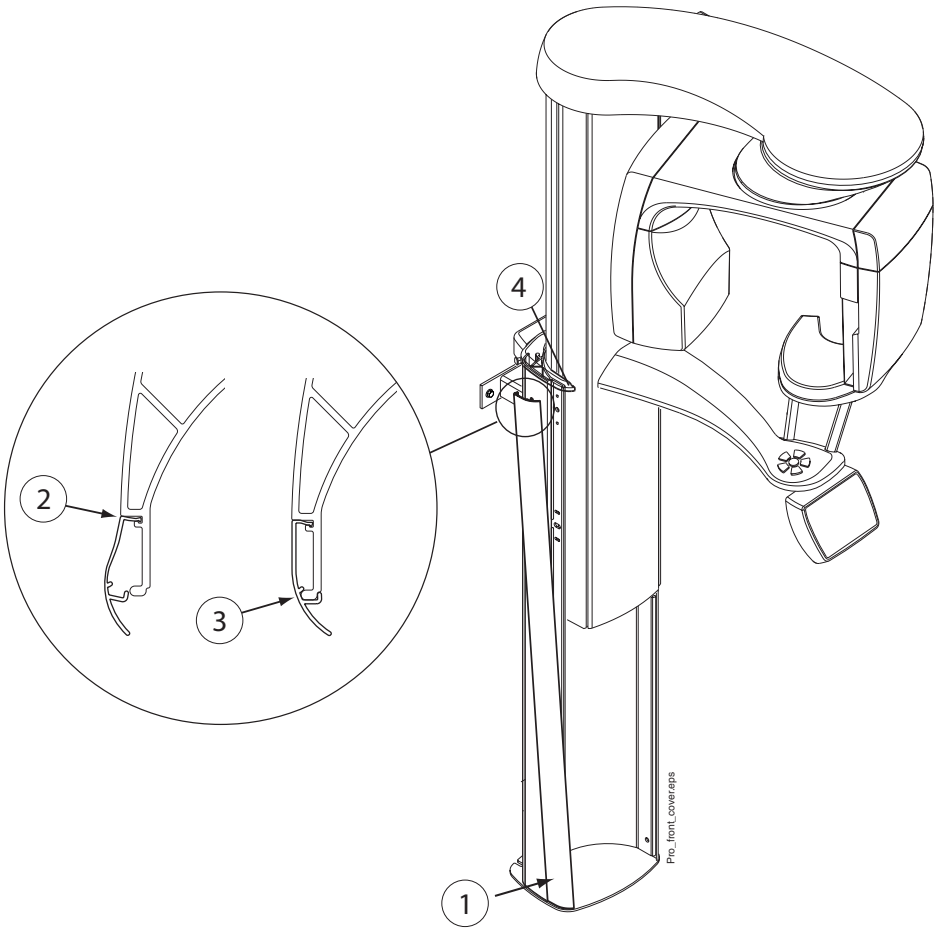
12.1 Shoulder arm cover

The shoulder arm cover is attached to the shoulder arm with mounting springs. Press the shoulder arm cover to its position so that the mounting springs located on the cover hit the mounting screws on the shoulder arm casting.



12.2 Stationary column side covers

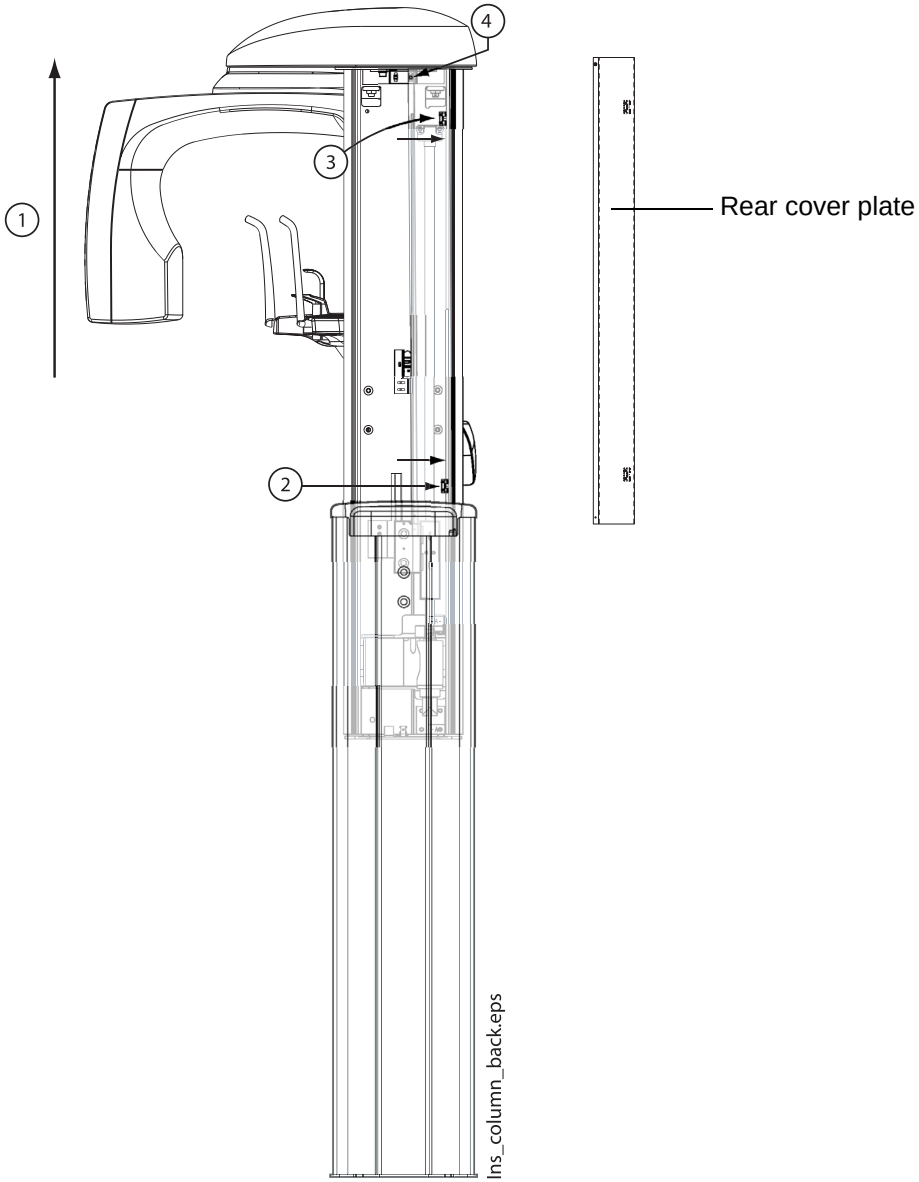
Start the side cover attachment from the bottom of the stationary column (1). First press the back edge of the side cover at its whole length to the groove of stationary column (2). Then attach the front edge (3).



12.3 Telescopic column rear cover plates (x-ray units with ceph)

NOTE ***If the unit is not equipped with cephalostat, the telescopic column rear covers are attached to the unit at the factory.***

Attach the two rear cover plates of the telescopic column as follows. Switch the unit on and drive the telescopic column to the uppermost position (1). Switch the unit off. Attach first the lower outer corner of the cover plate to the column (2) and then attach the upper outer corner (3). Attach the upper inner corner by pressing the mounting pin into the opening on the telescopic column (4).



13 CHECKING THE ALIGNMENTS

13.1 Angle sensors

Make sure that the angle sensors are correctly calibrated. Refer to ProMax x-ray unit technical manual, section 4.1 “Calibration of angle sensors” on page E-105.

13.2 Panoramic x-ray beam

The beam alignment must be checked after installation. Please refer to the ProMax x-ray technical manual, section 1.2 “Checking the panoramic beam position” on page E-4 or 2.2 “Fixed primary collimator: Checking the panoramic beam position” on page E-32 for instructions of film-based x-ray unit, and to the section 3.2 “Checking the panoramic beam position” on page E-53 for the instructions of digital x-ray unit.

Adjust the panoramic x-ray beam according to the instructions given in technical manual, if needed.

13.3 Taking a ball phantom exposure

Take a ball phantom exposure according to the instructions given in ProMax technical manual, section 1.5 “Checking the adjustments” on page E-12 or 2.4 “Fixed primary collimator: Checking the adjustments” on page E-38 for instructions of film-based x-ray unit, and to the section 3.9 “Checking the adjustments” on page E-79 for the instructions of digital x-ray unit. If needed, adjust the patient positioning mechanism according to the instructions given in technical manual.

13.4 Patient positioning lights

Check the midsagittal plane positioning light and layer light positions according to the instructions given in ProMax technical manual, section 1.2 “Panoramic mode patient positioning lights” on page F-1.

Check the Frankfort plane positioning light according to the instructions given in ProMax technical manual, section 1.1 “Frankfort plane positioning light” on page G-1.

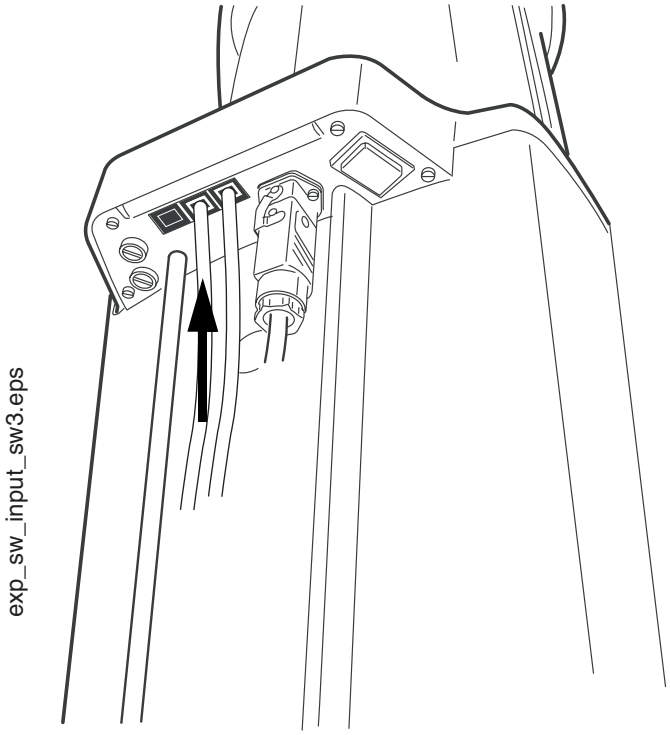
13.5 Cephalometric x-ray beam

The cephalostat beam alignment is checked according to the instructions given in section 1 “FILM-BASED CEPH - ADJUSTMENTS AND CALIBRATIONS” on page H-1 or in section 2 “DIGITAL CEPH - ADJUSTMENTS AND CALIBRATIONS” on page H-33.

14 INSTALLING THE OPTIONAL EXTERNAL USER INTERFACE

NOTE ***Make sure that the unit is switched off before connecting/disconnecting the external user interface cable to the unit.***

Connect the external user interface cable (RJ-45 UTP cable, max. length 15 meters) to the middle terminal (marked “Plancan”) at the underside of the stationary column top.



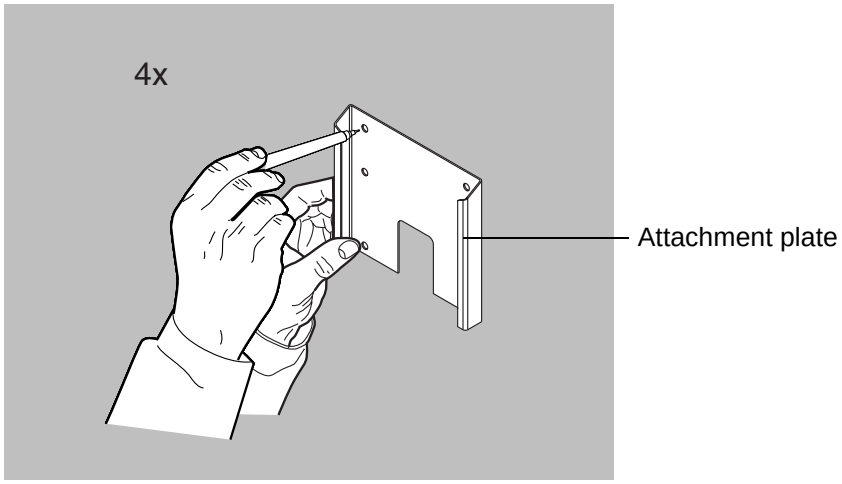
exp_sw_input_sw3.eps

Install the external user interface to the desired location, e.g. to a protected area.

14.1 Attaching the user interface to a wall

NOTE ***In case you are using a wall socket, attach the external interface according to the instructions given in section 14.2 “Attaching the user interface to a wall socket (USA)” on page 78.***

Use the attachment plate as a template and mark the positions where the holes for the four attaching screws will be drilled.



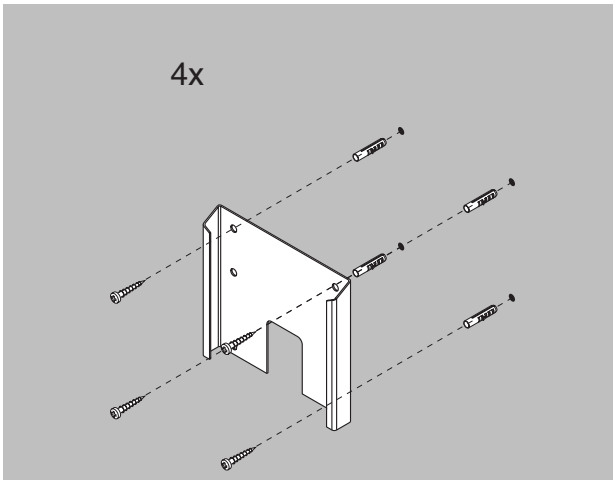
Uif1.eps

If the wall is made of concrete or brick, use the 4x30 screws and the 6x30 expansion anchors. Drill ø6mm (0.23 in.), 20 mm (0.8 in.) in depth, securing holes and place the expansion anchors onto the holes.

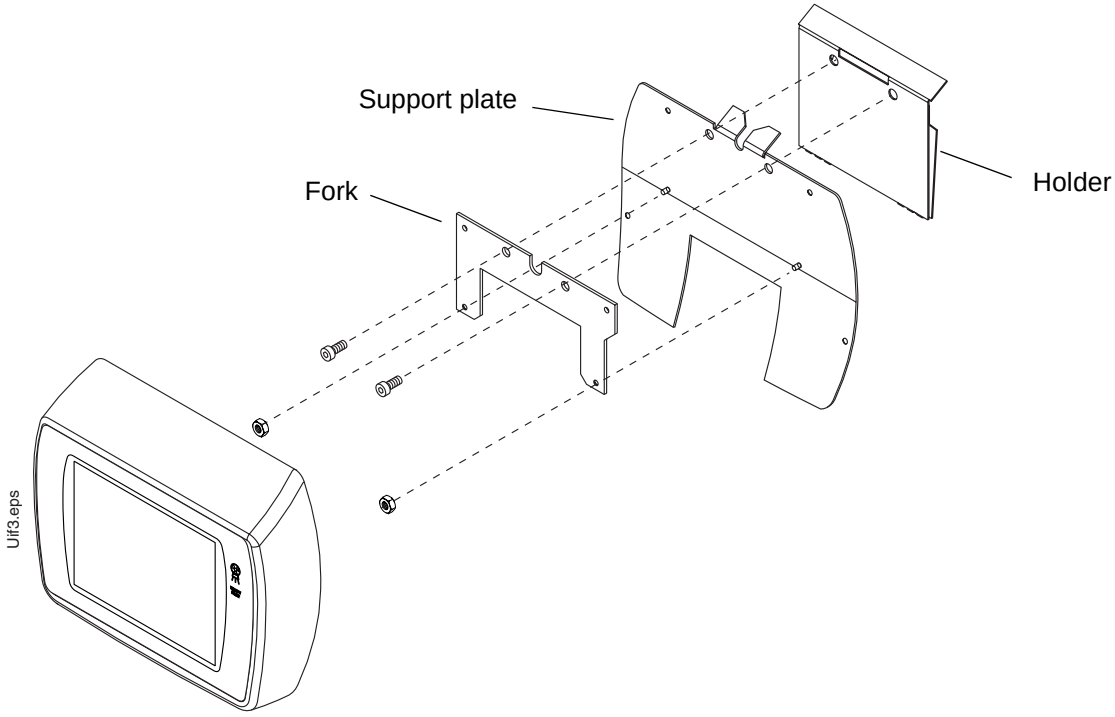
If the wall is made of wood, use the 4x30 screws. Do not use the expansion anchors with wooden wall. Drill ø3 mm (0.11 in.), 20 mm (0.8 in.) in depth, holes for the attachment screws.

Attach the attachment plate to the wall with the four attachment screws.

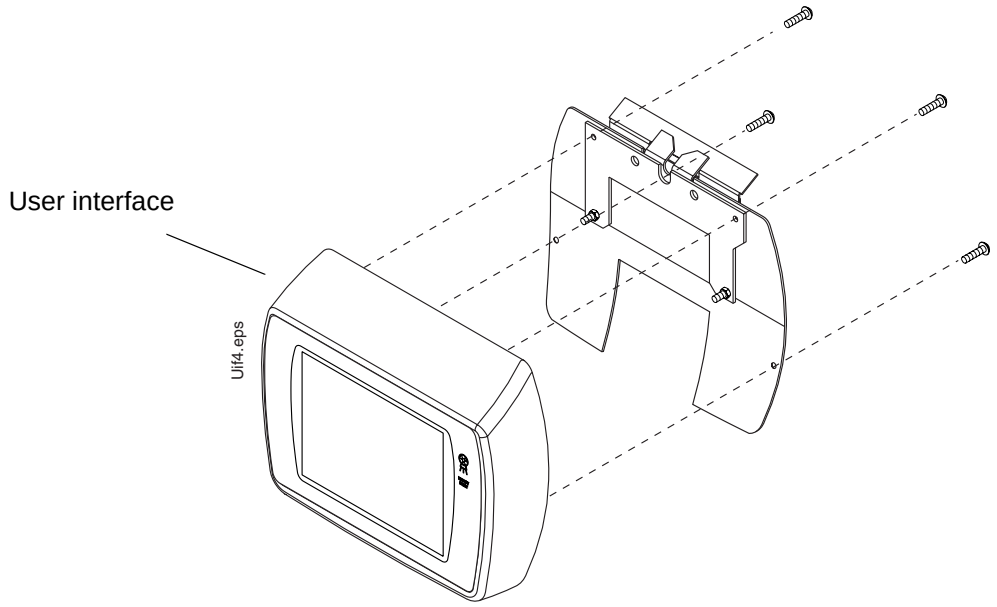
Uif2.eps



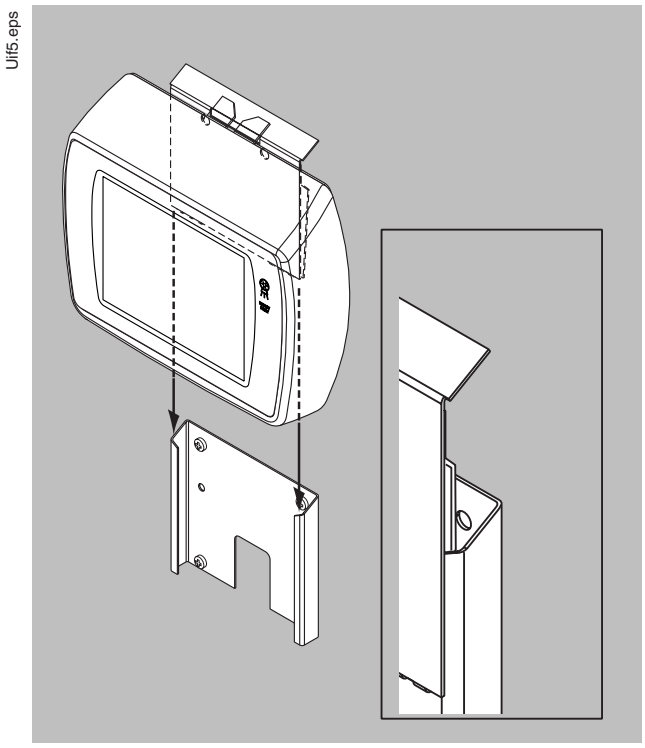
Attach the support plate and the fork to the holder with the two M6x12 DIN 7984 screws. Secure the fork to the support plate with the two M3 DIN 934 nuts.



Attach the user interface to the support plate with the four PT 3x12 rst WN1451 torx screws.



Slide the user interface to the attachment plate as described on the figure below.

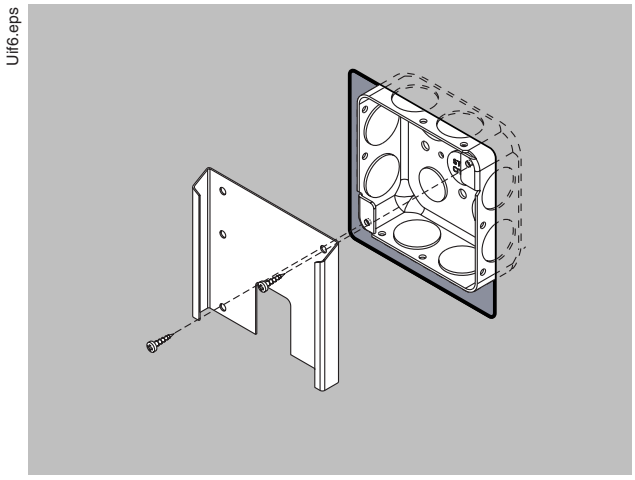


Connect the user interface cable to the terminal (marked “Plancan”) at the underside of the user interface.

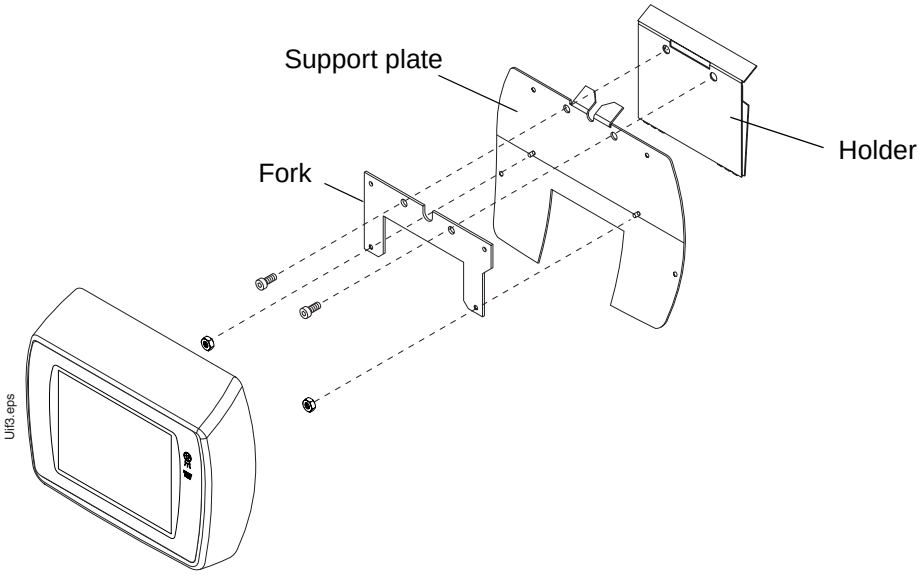
NOTE ***The wiring of the external user interface installation is shown on the diagram at the end of this manual.***

14.2 Attaching the user interface to a wall socket (USA)

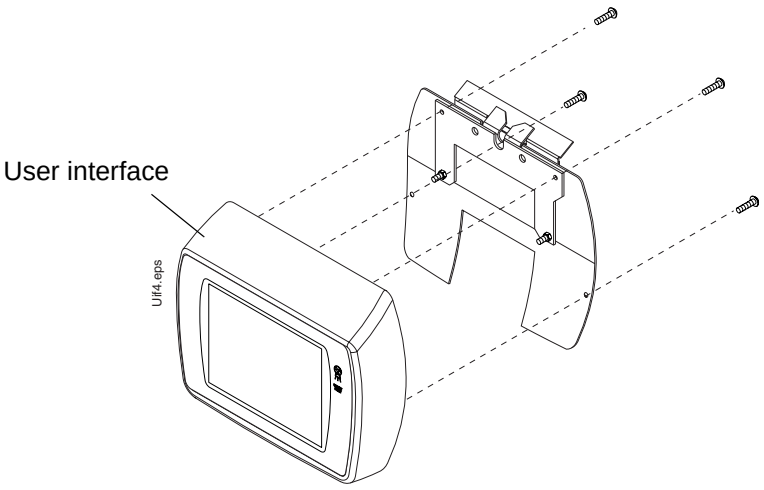
Attach the attachment plate to the wall box with the two wall boxes screws as shown on the figure below.



Attach the support plate and the fork to the holder with the two M6x12 DIN 7984 screws. Secure the fork to the support plate with the two M3 DIN 934 nuts.



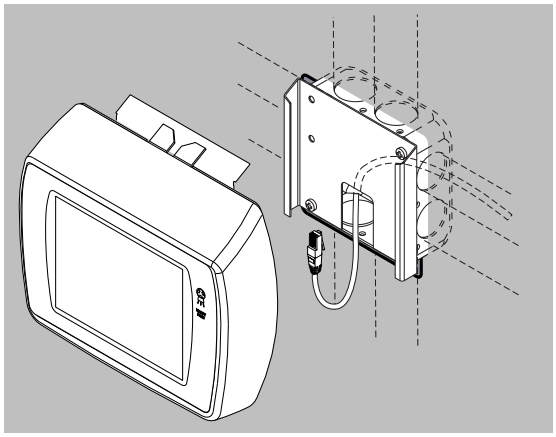
Attach the user interface to the support plate with the four PT 3x12 rst WN1451 torx screws.



Route the user interface cable through the opening on the attachment plate.

Connect the user interface cable to the terminal (marked “Plancan”) at the underside of the user interface.

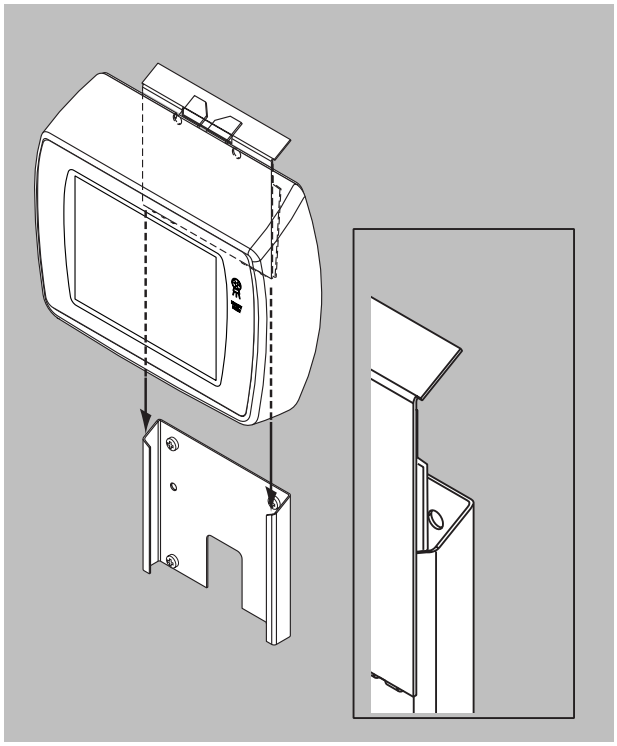
Uif7.eps



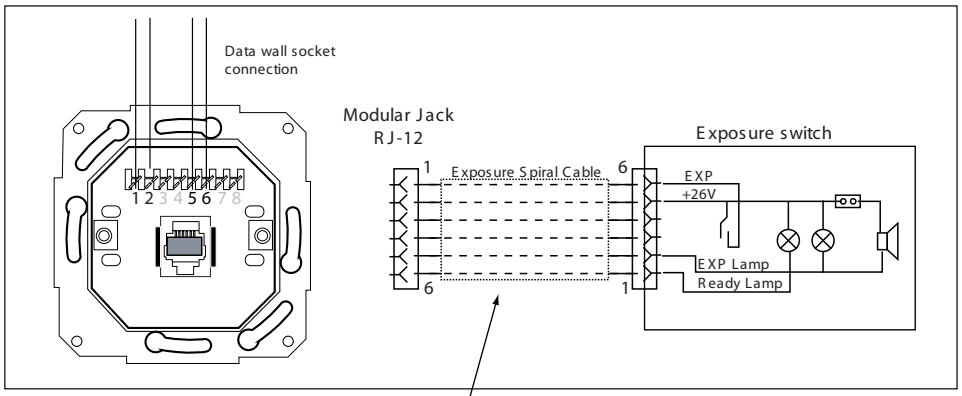
NOTE The wiring of the external user interface installation is shown on the diagram at the end of this manual.

Slide the user interface to the attachment plate as described on the figure below.

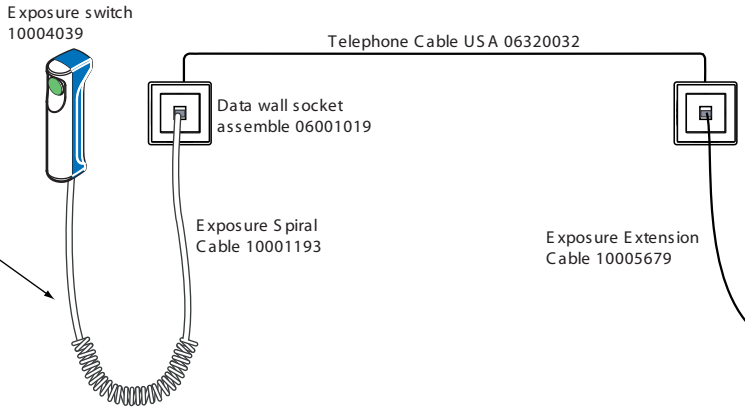
Uif5.eps

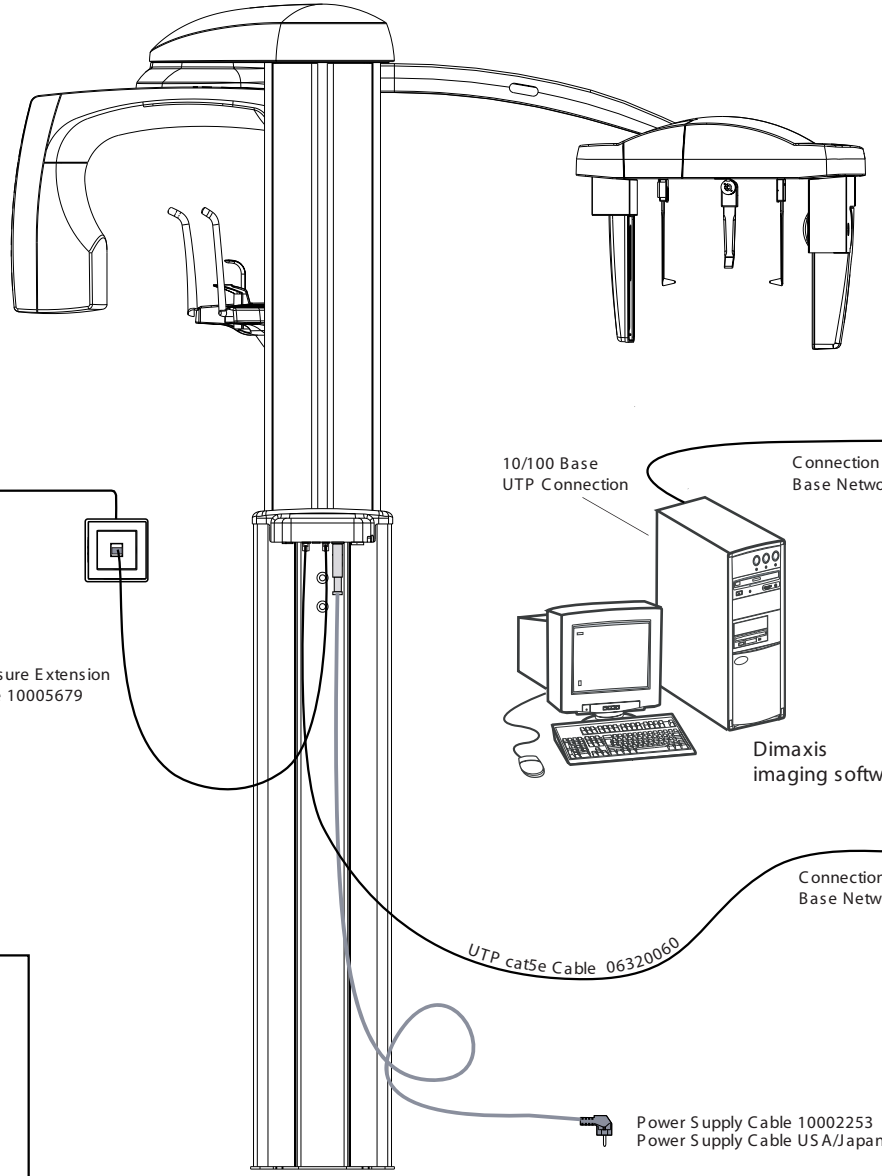


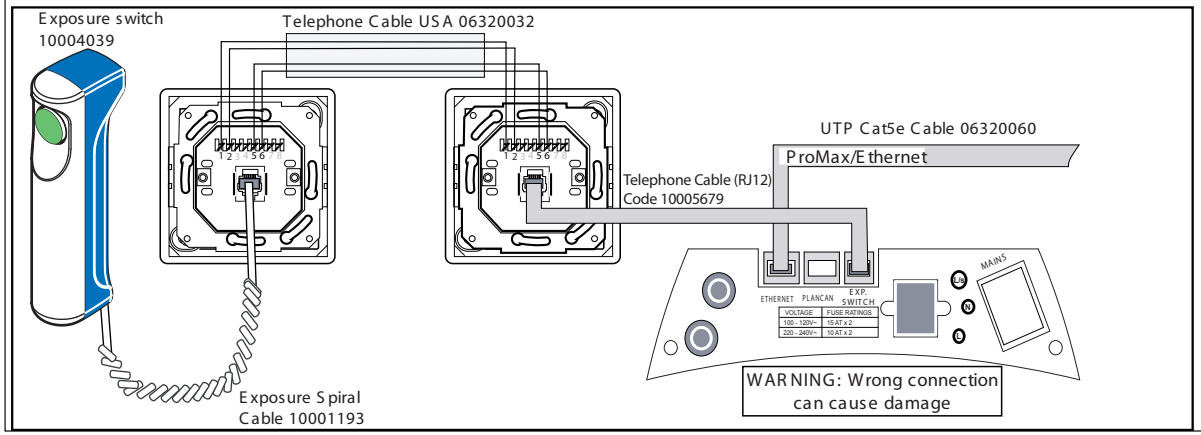
15 DIAGRAMS FOR EXPOSURE SWITCH / GUI REMOTE CONNECTION AND PROMAX ETHERNET CONFIGURATION



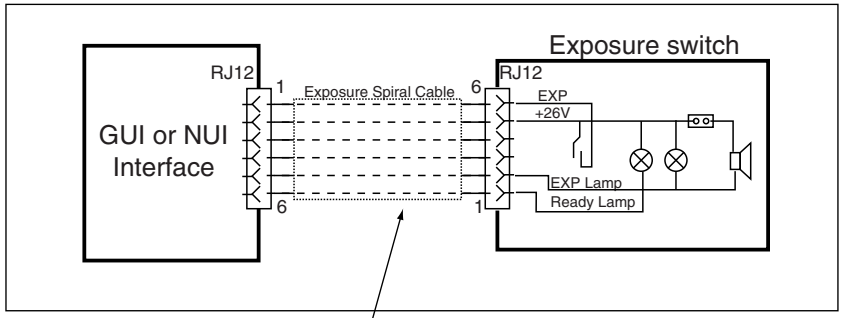
NOTE
Cross connected Cable







PLANMECA OY Asentajankatu 6 00810 Helsinki Finland	04.05.2004	ProMax
	L.Ylen	Exposure Switch / Remote connection
		Rev 1.1



NOTE
Cross connected Cable

10004041 Wall holder plate

GUI-Wallplate 10004282

Exposure switch
10004039

Graphic User Interface
LCD 10003609 or
EL 10004236

Exposure Spiral
Cable 10001193

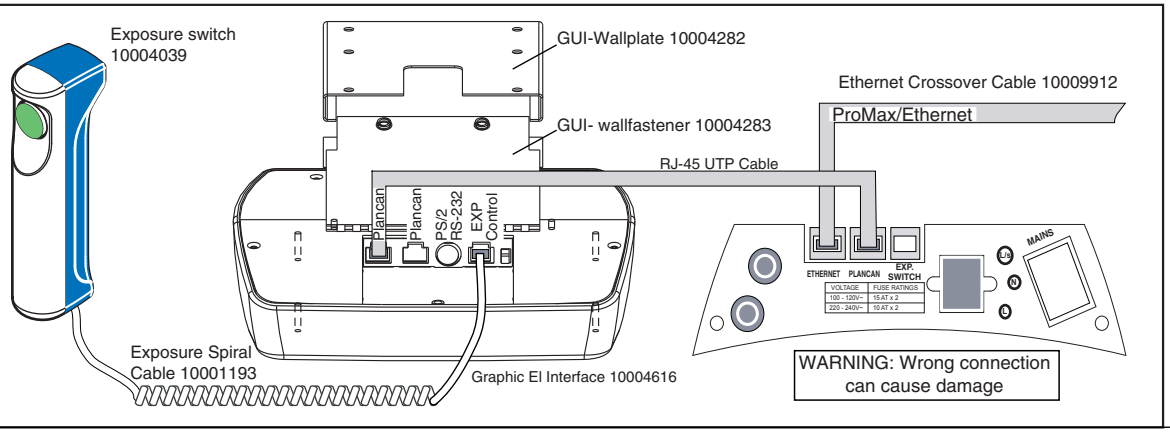
RJ-45 UTP Cable
max lenght 15 meters

10/100 Base
UTP Connection

Dimaxis
imaging software

Ethernet Crossover Cable 10009912

Power Supply Cable 10002253
Power Supply Cable USA/Japan 10002863

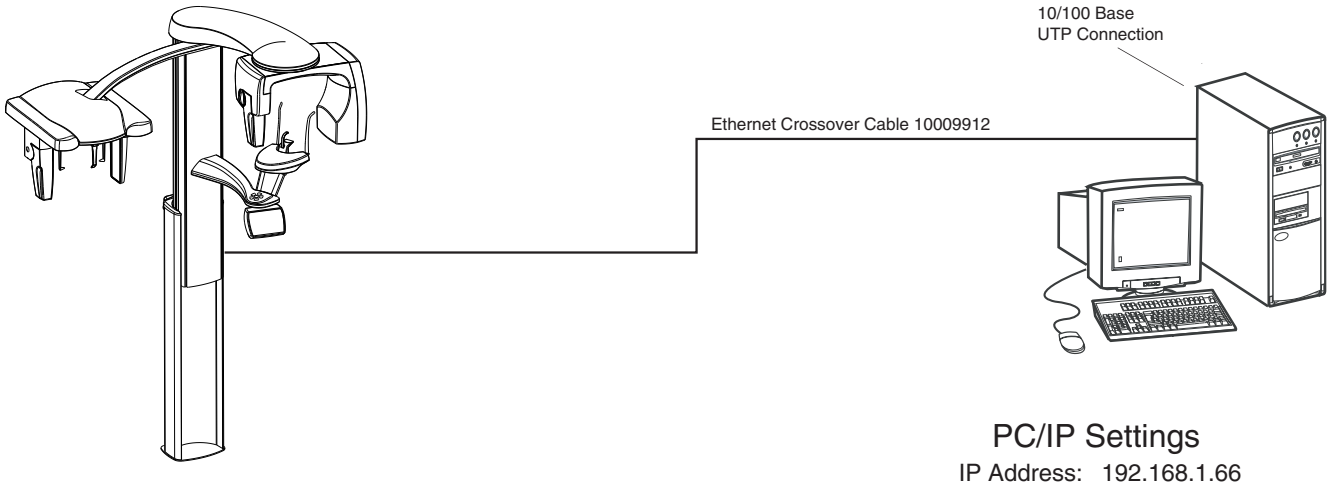


PLANMECA OY Asentajankatu 6 00810 Helsinki Finland	04.05.2004	ProMax
	L.Ylen	Exposure Switch / GUI Remote connection
		Rev 1.1

ProMax Remote/ Ethernet Configuration

ProMax

Dimaxis Imaging Software



PC/IP Settings

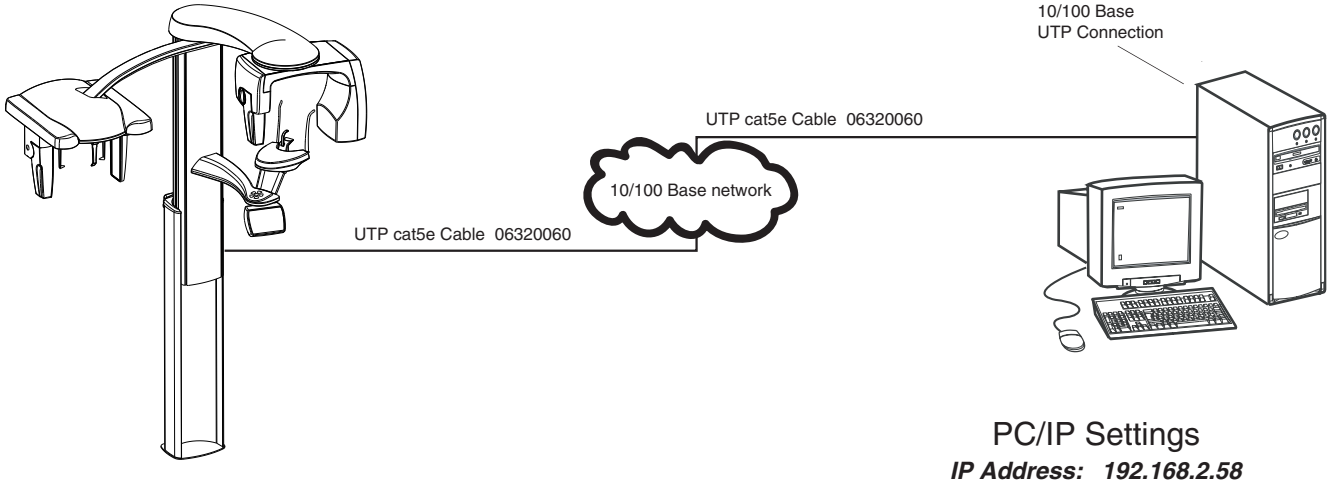
IP Address: 192.168.1.66
Subnet mask: 255.255.252.0
Default gateway: 192.168.1.2

GUI-Settings i482-TCP/IP

IP Address: 192.168.0.130
Netmask: 255.255.252.0
Gateway: 192.168.1.2

Dimaxis 3.2.3/Didapi-Configuration

IP Address: 192.168.0.130
IP Port: 5000



PC/IP Settings

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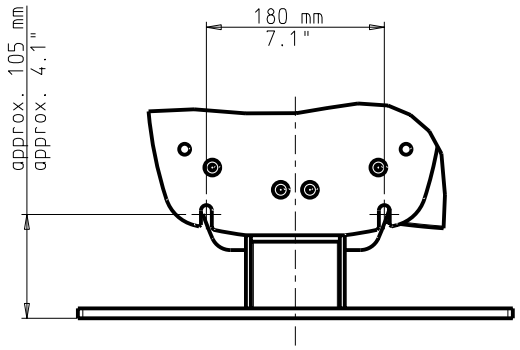
Subnet mask: 255.255.252.0
Default gateway: 192.168.1.2

GUI-Settings i482-TCP/IP

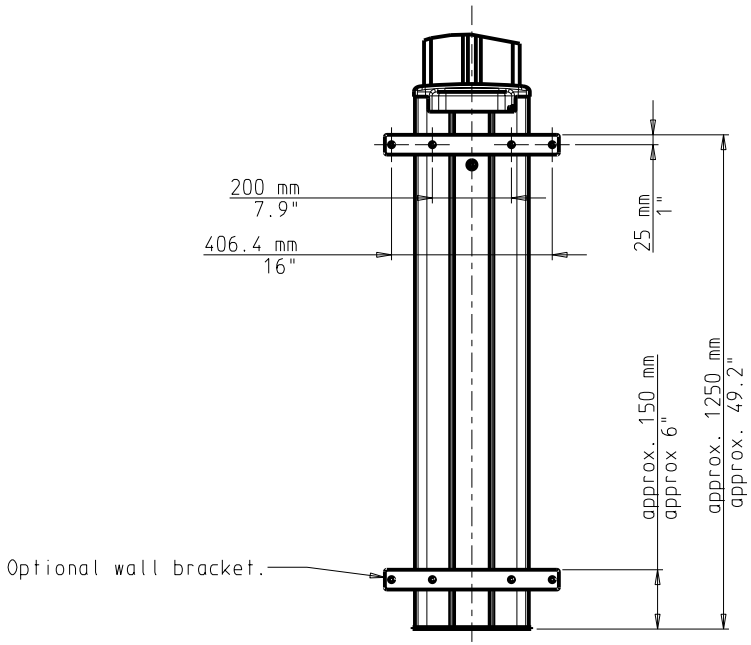
IP Address: 192.168.0.130
Netmask: 255.255.252.0
Gateway: 192.168.1.2

Dimaxis 3.2.3/Didapi-Configuration

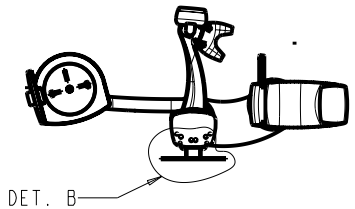
IP Address: 192.168.0.130
IP Port: 5000

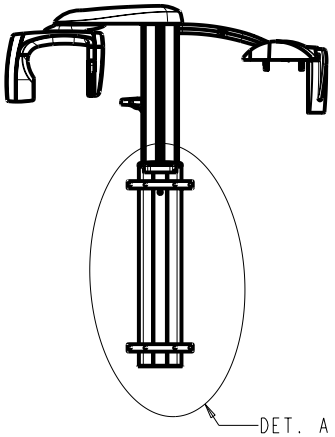


DET. B



DET. A





For detailed information about installing the unit,
refer to the Planmeca ProMax installation manual.

Muutos Change	ECO numero ECO number	Muutoskuvaus Change description	Päiväys Date	Muuttaja Changed By

Arvioitu määrä Estimated pcs.	Nimitys ProMax (kiinnitysmitoitus)	Aine
	Name ProMax (attachment dimensions)	Material
Yleistoleranssi ja luokka General tolerance		
Pintakäs.		Väri Colour
Surf.finish		Edustava pinta Decorative surf. : – – — – –

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Piirustusta vastaavan mallin nimi Model name corresponding to drawing	KIINNITYSMITOITUS			
Suunn. Designer	Rantakokko	Model rev. A	Model vers. 1+	Päiväys Date 24.10.03
Hyv. Appr.	01267	Tila Status	Initial	Koodi Code
Suhde Scale		Piir.nro Drawing no.	3-608-42138-A	Versio Version 1

INITIAL= julkaisematon, PRELIMINARY= alustava, RELEASED= hyväksytty

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fax +358 20 7795 555, e-mail: sales@planmeca.com, www.planmeca.com